

SID MEIER'S CIVILIZATION V



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SECTION 1: IN THE BEGINNING

INTRODUCTION

Welcome to *Sid Meier's Civilization V*! In this game you take on the greatest leaders in world history in a battle of warfare, diplomacy, technology, culture and economics. There are many paths to choose from in Civ V: can you lead your people to a military, cultural, diplomatic or technological victory, or will you be crushed beneath your enemies' chariot wheels, just another forgotten ruler of a vanquished people?

Great ruler, your people look to you for guidance! Can you lead them on to greatness and build an empire to stand the test of time?

Good luck and enjoy!

About Civilization V

Civilization V is the fifth version of the classic game first released in the early 1990s. It is the longest-lived and best world history computer simulation ever published, famous for its depth of play and uniquely addictive nature.

We trust that Civ V lives up to its predecessors. It features cool new combat and movement rules, updated economics and social policies, innovative modding and multiplayer features, and greatly enhanced artwork and audio. We hope you like it.

ABOUT THIS MANUAL

The manual will tell you everything you need to know to play *Civilization V*. It is divided into three sections: "In the Beginning" (which you're now reading), "The Basics," which contains everything you need to start and enjoy a game (at least through the Industrial Age), and "Advanced Rules," which contains rules for air combat, nukes, multiplayer and scenario "modding," credits, tech support and the always-popular copyright info.

As always, we think that the best way to learn how to play Civ V is to check out the Tutorial, which is accessible from the Main Menu, or to jump right in and play, and refer to this manual and the in-game Civilopedia (see below) when you need to. You can, of course, read this fine document from cover to cover, but you really don't need to do so to play.

THE CIVILOPEDIA

The Civilopedia is a fine in-game knowledge resource for Civ V. You can reach it by pressing F1 or by clicking on "HELP" on the top of the Main Screen.

The Civilopedia is broken into main sections, each of which is represented by a tab on the top edge of the screen. Click on a tab to go to that section, then find your specific topic in the left-hand navigation (nav) column.

The Game Concepts section of the Civilopedia contains a slightly condensed version of this manual broken into smaller chunks. This makes it somewhat harder to lose the manual or to spill diet soda on it.

SYSTEM REQUIREMENTS

Minimum System Requirements:

Operating System:	Windows XP SP3
Processor:	Intel Core 2 Duo 1.8 GHZ or AMD Athlon X2 64 2.0 GHZ
Memory:	2 GB of RAM
Hard Disk Space:	8 GB Free
DVD-ROM	Required for disc-based installation
Video:	256 MB ATI HD2600 XT or better, 256 MB nVidia 7900 GS or better, or Core i3 or better integrated graphics
Sound:	DirectX 9.0c-compatible sound card
DirectX®	DirectX® version 9.0c
Internet Connection:	Required for initial game validation and multiplayer games

Recommended System Requirements:

Operating System:	Windows Vista SP2 / Windows 7
Processor:	2.4 GHz Quad Core CPU
Memory:	4 GB of RAM
Graphics:	512 MB ATI 4800 or better, 512 MB nVidia 9800 or better
Internet Connection:	Broadband Internet connection recommended

INSTALLATION

Depending on how you purchased *Civilization V*, you have two methods of installation available to you.

Box Install

If you purchased a physical copy of Sid Meier's *Civilization V*, insert the DVD-ROM into your drive. You will first select your language, and will then have the option to install the game. You will be prompted during the installation to install Steam if you do not yet have it installed, and then it will ask you to login to your Steam account. Follow the onscreen instructions to finish the installation. Please note that you must be connected to the Internet during this initial installation process.

If prompted for your Product Code (for disc-based installations), please note it is located on the back of the manual cover.

Steam Install

View Games Library

Activate a Product on Steam...

Manage Gifts and Guest Passes...

Add a Non-Steam Game to My Library...

If you purchased the game through Steam's online storefront, the game will automatically appear in your Games list. Click on the *Civilization V* title to bring up the game page.

Click on the Install button at the top of the page to begin installation.

You can also choose to add a box copy of Civ V purchased through a store to your Steam account. From the Games tab, click on "Activate a Product on Steam..." and agree to the Terms of Service. Enter your product key into the provided line and click on Next. You can now download and play your copy of Civ V as if you had purchased it directly from within Steam.



Internet Connection

The first time you play Civ V, an active Internet connection will be required. Any time thereafter, you will not need to have an active connection to the Internet, unless of course you wish to play any multiplayer games.

If you purchased the game through Steam, you'll also need an Internet connection to download all the necessary game files.

While not required to play, if you wish to purchase any official DLC or browse for mods, you will also need an Internet connection.

STEAM

Civilization V is powered through Steam, an online game platform and distributor. Steam allows for automated updates, easy access to DLC, and a quick way to join up with your friends for Multiplayer games.

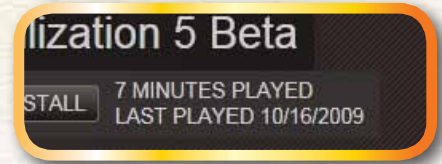
Steam is required to play Civ V, and an Internet connection will be required only when you *first* run the game. See "Installation" on page 4 for more details, or visit <http://store.steampowered.com> for more information about the service.

Installation

See "Steam Install" above for information on installing *Civilization V* through Steam.

Game Page

You can access information about *Civ V* from within Steam by navigating to the Games tab and clicking on the *Civilization V* entry from within your Games list. The *Civ V* Game Page will list information about the game and provide links to the forums and Steam Support (in case you run into any issues). Your friends who also own the game will be displayed, and any Achievements you've unlocked will be listed.



Click on the Play button at the top of the page to start up the game.

Patches, Updates, DLC

Steam will check for updates and automatically patch your game if one is found – no more hunting around on the Internet for the latest update information! You can also purchase official DLC (Downloadable Content) from within Steam. Make sure to check back often for the latest information on available maps, mods, scenarios, and new leaderhead downloads.

Overlay

You can bring up the Steam Overlay when in-game by pressing Shift+Tab.

Achievements

During the game you may unlock Achievements: unique rewards for performing a specific task. Some Achievements are easy to gain, like winning the game when playing as Washington. Other Achievements will require multiple play-throughs, planning, and effort to unlock. You can view all available Achievements in the game from *Civ V*'s Steam Game Page.

If you're playing offline when you fulfill the requirements for an Achievement, the game will store this information and unlock the Achievement for you the next time you log into Steam. Check back often on Steam for more Achievements – new ones will become available with some DLC packs.

THE TUTORIALS

Tutorials are game sessions that help you learn how to play. There are two different tutorials in *Civilization V*. There's the "Learn as You Play" tutorial system, which is pretty much self-explanatory, and then there are the five "guided" tutorials.

Accessing the Tutorials

After you've installed the software, start a game (see "Starting a Game" on page 8). On the Main Menu, click on "Single Player," then click on "Tutorial".

Click on one of the six tutorials, then on "Start Selected Tutorial."



Tutorial Types

Learn as You Play!

This tutorial starts you off in a Beginners level game, on a very small map. Your "Advisors" are set to maximum helpfulness, which means that they'll "pop-up" fairly often to give you loads of advice. This is a "real" *Civilization V* game, so you'll get a chance to experience all aspects of play — and you may even get beaten.

Guided Tutorials

These are not full games. Instead, they provide lessons on some of the most important early parts of play – movement, founding cities, combat, and so forth. Each contains a set of simple objectives, and when you complete them, the tutorial ends. Once you've mastered these, you can either try the "Learn as You Play" tutorial or you can jump into a full game.

The Guided Tutorials are:

Tutorial 1: Movement and Exploration

Tutorial 2: Founding Cities

Tutorial 3: Improving Cities

Tutorial 4: Combat and Conquest

Tutorial 5: Diplomacy

The Advisors

Your Advisors will give you plenty of help during a game, if you want it. See "Advisors" on page 19 for more details on Advisors.

STARTING A GAME

Once you've installed the game, double-click on the game shortcut, navigate to your *Civilization V* executable or run through Steam to start the software.

After you've enjoyed the opening animation sequence, click on the Single Player button on the Main Menu, then click on "Play Now" to begin the game with our preset default play values. The game will start immediately.

Or, instead of clicking on "Play Now," click on "Setup Game" to set the game's difficulty, map size, to pick a civilization to play, and so forth. Then click on "Start Game" to start a game.

These steps will get you playing in a hurry. If you want to know more about your game options, read on.



The Main Menu

The Main Menu appears after the opening animation. It provides the following options:

SINGLE PLAYER

Click on this to set up and play a single player game. (See "The Single Player Screen" on page 9.)

MULTIPLAYER

Click on this to play a multiplayer game. See "Multiplayer Civilization V" on page 191.

MODS

Click on this to play a "mod" – a modified *Civilization V* world created by the official Civ V team or by other fans (or even by yourself)! Click here if you want to explore creating your own mod.

OPTIONS

Click here to go to the Game Options screen. This allows you to modify some aspects of gameplay, as well as the game's video and audio settings. See "The Options Screen" on page 15.

OTHER

Click on "Other" to check out the Hall of Fame and the Game Credits.



The Single Player Screen

You access this screen from the Main Menu. This screen provides the following options:

PLAY NOW

Click on this button to play with the current “default” settings. After you’ve played a game, this button will start another game with whatever settings you picked in the previous one.

SETUP GAME

This button brings you to the “Setup Game” screen, where you can choose a civilization, game difficulty, map size, etc. See “The Setup Game Screen” on page 10.

LOAD GAME

This button brings you to the Save/Load screen, wherein you can load and continue playing a previously-saved game. See “Saving and Loading a Game” on page 13 for details.

TUTORIAL

Click on this button to access the game’s tutorials. See “The Tutorials” on page 7 for more info on tutorials.

BACK

This button takes you back to the Main Menu.



The Setup Game Screen

This screen allows you to setup your game. It has five main sections. Click on a section to alter that portion of play.

Leader

Click on the Leader button to choose a leader and associated civilization. The Select Civilization screen displays all of the leaders/civilizations available. It also displays the leader's "trait" (special ability) and the civilization's unique units and buildings. Scroll through the list and pick the civilization you want to build and command. At the top of the list is the "Random Leader" button. Pick this to play a random leader.

Once you've made your choice you'll return to the Set Up Game screen.

Map Type

Click on this to choose a map type. There multiple default choices, plus a Random Map Type Button. (More will be added through downloads after publication.) The first three choices are:

CONTINENTS

This creates an Earth-like world with several big continents and some smaller islands.

PANGAEA

This creates a world with one huge continent and possibly some smaller islands.

ARCHIPELAGO

This creates a world with many large and small islands, but no full continents. This is a good world if you like navies!

Map Size

This provides six map sizes plus a Random Map Size button. The size of the map you choose will also determine the number of civilizations and city-states in the game. "Duel" is the smallest size and "Huge" is the largest.

You can hover your cursor over the map sizes to see how many civilizations/city-states appear on each.

Difficulty Level

This allows you to set the difficulty level of the game, from "Settler," the easiest, to "Deity," which is insanely difficult. Difficulty controls a variety of things, from the smartness of your artificial intelligence opponents to the goodies you may discover in Ancient Ruins. See "Game Difficulty" on page 14 for details.

Game Pace

This determines the length of time for various game tasks, like constructing buildings, researching technologies, and so forth. The "Quick" level is just that, and it makes for an extremely rapid and frenetic game. "Standard" is the default game, and we encourage it for new players. "Epic" and "Marathon" extend the times it takes to do almost anything. Check these out after you've played a few "Standard" Games.

Randomize Button

The "Randomize" button on the bottom edge of the Set Up Game screen will reset the leader/civilization and Map Type of the game to Random. Difficulty Level and Game Pace are never randomized.



The Advanced Settings

The Advanced Setup Screen gives you more customization options when setting up your game. Click the "Advanced Setup" button on the Setup Game Screen to access the screen. From here you can add the exact amount of AI and City-State players you wish to play with, set the game pace, map size, and many other more minute details. Click "Start Game" when you're finished, or "Back" to return to the main Setup Game Screen.

Start Game

Press this button to begin a game with the settings you've chosen.

Back

This button takes you back to the previous "Single Player" screen.

THE CIVILIZATION V WEB SITE

The *Civilization V* web site is a valuable resource for game features and tips, developers' blogs, community interaction, and modding. Check the web site for the latest news, patches and information on the *Civilization V* universe!

www.civilization5.com

SAVING AND LOADING A GAME

You can save or load a *Civilization V* game at any time.

Saving a Game

To save a game, go to the Main Screen and get rid of any pop-ups that might be waiting for a response. Click on the "Menu" button on the Main Screen and then on "Save Game" to create a new saved game file.

The Save Game Screen

Click on "Save" to save the game with the default name. Or you can give the save a new name: simply type it over the default and then click "Save." The game will be saved and you'll be returned to your game in progress.

Saved Game Location

The games are saved in your Window's My Documents\My Games folder. For example, if your user name on your computer were johnDoe, your saved games could be found in:

johnDoe\My Documents\My Games\Sid Meier's Civilization 5\Saves\single.

You cannot by default save your games into other directories.

Loading a Game

At the Start of a Game

On the Main Menu, click on "Single Player," then on "Load Game." This will take you to the Load Game screen.

During Play

Go to the Main Screen and press [CTRL-L]. Or click on the "Menu" button, then on "Load Game."

The Load Game Screen

Once on this screen, click on the name of the game you wish to load, then click on "Load Game." The game will load and you will resume play at the point you saved it.

Special Saves

Auto-Save

The program automatically saves the game every turn. (You can alter the frequency of these auto-saves in the Options screen.) To load an auto-save, bring up the Load Game screen, then click on the "Auto-Save" button, then on the auto-saved game you want to play, then on "Load Game." The auto-saved game will load and you'll resume play at the point of the auto-save.



Quick Save

One other save/load option is available to you: "Quick Save," which is especially useful when you're in a hurry. Press F11 to "Quick Save" your game. The game is then saved without requiring any further input from you. Only one game can be quick-saved at a time: any future quick save will overwrite the current one.

Press F12 to load the current quick-saved game.

GAME DIFFICULTY

The game difficulty determines a number of things, including the starting power of your AI opponents, the speed at which your civilization grows, and so forth.

Difficulty Levels

The Difficulty Levels are, in order from easiest to hardest:

Settler
Chieftain
Warlord
Prince
King
Emperor
Immortal
Deity

Effects of Difficulty

"Prince" is the middle level. On that level neither you nor your AI opponents get any particular bonuses. On levels below Prince you get bonuses in happiness and maintenance costs, and you get better results from Ancient Ruins. Barbarians are less aggressive and less smart on lower levels, as well.

On levels higher than Prince, the AIs receive increasing bonuses in city growth, production, and technology. They may also get additional starting units and free techs to boot.

THE OPTIONS SCREEN

The Options Screen, which allows you to change game parameters, is divided into four sections. Click on a section name at the top of the screen to modify a setting from that section.

Game Options

No Reward Popups: Click this to disable reward popups — for technology, ancient ruins, and so forth. Experienced players involved in a hot multiplayer game often choose this option.

No Tile Recommendations: This disables the tile recommendations when Settlers or workers are active.

Display Yields for Civilian Units: This displays on-map yield information when civilian units are selected.

No Basic Tooltip Help: This removes the explanatory text from basic tooltips, leaving just the “raw” game data.

Multiplayer Auto End Turn Timer: This enables the auto-end-turn timer in multiplayer games.

Single Player Auto End Turn Timer: This enables the auto-end-turn timer for single player games.

Tool Tip 1 and Tool Tip 2 Delay: This determines the amount of time delay for tool tips when hovering over various map tiles.

Adviser Level: This sets the level and amount of help you receive from your Advisers.

Reset Adviser Messages: Resets the Adviser system so all initial messages reappear.

Interface Options

Turns Between Autosave: This allows you to set how often the game will autosave. See “Saving and Loading a Game” on page 13.

Max. Autosaves Kept: This determines how many autosaved games the program will keep before overwriting them.

Automatically Size Interface: This allows the game to choose the interface graphics that it believes best suit your computer screen's resolution.

Use Small Scale Interface: This forces the program to use the small-scale interface, no matter what your screen resolution.

Alternate Cursor Zoom Mode: When zooming out, the screen will pull straight back instead of remaining anchored to the cursor.

Show All Policy Information: All social policies will be displayed on the Social Policies screen at all times, regardless of the game era and what branches have been unlocked.

Language: Set the written language used in the game.

Spoken Language: Set the spoken language heard in the game.



Video Options

Screen Resolution: This displays a list of the available game resolutions.

Anti-Aliasing: Turn on to smooth the graphical edges in the game; improves with more powerful hardware.

Full Screen: This allows you to choose whether to play in full screen mode or in a window.

VSync: Turning this on prevents video “tearing” by locking the frame rate. (Leave this “on” unless you’re an advanced user.)

High Detail Strategic View: This causes the game to use higher texture resolution, allowing you to zoom in more while in the strategic view. It may affect game performance on lower-end machines.

Performance Options

On startup, the game will attempt to auto-detect the following options and set them for optimum performance. (Note that not all options will be available for all Direct X versions.) If your game performance is suffering, try switching some of these from “High” to “Low.”

Leader Scene Quality: Affects the quality of the image of the Leader Scenes.

Overlay Detail: Affects the quality of the overlays.

Shadow Quality: Affects the shadow quality of units, buildings, and other non-terrain items.

Fog of War Quality: Affects the quality of Fog of War.

Terrain Detail Level: Determines the level of texture detail in the terrain.

Terrain Tessellation Level: Determines the level of mesh detail in the terrain.

Terrain Shadow Quality: Determines the quality of the terrain shadows.

Water Quality: Determines the quality of the water.

Texture Quality: Determines the quality of the textures in the game.

Audio Options

This screen lets you set the volume of various audio streams in the game.

Music Volume: How loud the background music is.

Effects Volume: Set the loudness of the effects – explosions, war cries, etc.

Ambiance Volume: Sets the loudness of the ambient noise – birds, waves, etc.

Speech Volume: Set the loudness of the speech of advisors and other leaders.

Audio Quality: Set the quality level of all the audio outputs.

Click “Accept” to accept the changes you’ve made on the Options Screen.

SECTION 2: THE BASICS

INTRODUCTION

This section of the manual includes an overview of *Sid Meier's Civilization V*, providing you with everything you need to get started. When you're ready, check out the Advanced Rules section for info on the later game and on multiplayer and modding.

Don't forget about the in-game Civlopedia, either. See "The Civlopedia" on page 3 for more details.

CIVILIZATION V TURN STRUCTURE

Overview

Civ V can be played in two different turn formats. The standard single-player game is "turn-based," while multiplayer games are played in "simultaneous turns."

Turn-Based Games

A solo game of *Civ V* is turn-based: you take your turn – move your units, conduct diplomacy, manage your cities, and so forth – then each of your opponents take their turns, then you take another, and so on until somebody wins.

Simultaneous Turns Games

A multiplayer game is a "simultaneous turns game." In this style of game, you and your opponents take their turns simultaneously. Everybody moves units, conducts diplomacy, maintains their cities all at the same time. When everybody's done everything they want to do, the turn ends and another begins. You can use a Turn Timer when playing in this format as well.

Simultaneous Turns games can be a whole lot of fun, but they're not for everybody. We recommend that you get a bunch of practice in turn-based *Civ V* before you jump into a simultaneous game.

CIVILIZATIONS AND LEADERS

Each civilization in the game is unique. Every leader has a special “trait” which gives his or her civilization a certain advantage during the game, and each civilization also possesses unique units and/or unique buildings. Some of these appear early-on in a game, while others might show up only later. Mastering a civilization's strengths – and exploiting your enemies' weaknesses – is one of the most challenging parts of the game.

And one of the most rewarding.

All of the civilizations' traits and unique units and buildings are displayed during game setup when you choose your civilization. You can also check them out in the Civilizations section of the Civlopedia and on page 174 of this manual.



Leader Traits

As described above, each leader has a unique trait, which gives it some special advantage during a game. For example, Ramesses II of Egypt has the “Monument Builders” trait, which speeds Egypt's construction of Wonders. Gandhi possesses the “Population Growth” trait, which allows India to create bigger cities with less population unhappiness. It's a good thing to keep your civilization's leader's traits in mind while playing – it can really improve your game.

Unique Units

Each civilization possesses one or more “unique units,” each of which is a powerful replacement for a standard unit. Greece, for example, has the Companion Cavalry unit, which it gets instead of the Horseman unit. Greece also receives the mighty “Hoplite” in place of a Spearman. Needless to say, Greece is pretty dangerous in the early part of the game.

On the other hand, Germany gets a Panzer instead of the standard Tank that other civilizations will receive. So if Germany survives Greece's early advantage, it in turn will become quite dangerous during the later game.

Unique Buildings

Some civilizations also get Unique Buildings. These are like unique units in that they replace the standard buildings that other civs get. For example, Persia gets the Satrap's Court in place of a Bank, giving it a significant edge in happiness and in generating wealth. Siam gets a Wat instead of a University, which provides it with extra culture in addition to a big science boost.

ADVISORS

As leader of a mighty civilization, you have an able coterie of Advisors who will assist you with guidance and advice. They'll point out things that they believe are important, or that you might have forgotten about. You can turn them off if you like, but you may want to try playing with them for a while first.

You have four different Advisors. Each provides advice on a specific area of expertise:



Economic Advisor

The Economic Advisor provides advice on building and improving your cities and territory.

Military Advisor

The Military Advisor provides advice on combat and all things related to war.

Foreign Advisor

The Foreign Advisor advises you on exploration and your relations with city-states, and other civilizations.

Science Advisor

The Science Advisor gives you advice on science and technology, as well as information on game rules.

Contacting An Advisor



During play, your Advisors will appear in “popups” when they have something they think you should know. They'll often provide links to other information that relates to the current topic. You can follow these links or click “Thank You” at any time to dismiss the Advisor.

You can also press the “Advisors” button in the upper right-hand corner of the screen to reach the “Advisor Counsel” screen. There you can see all four of your Advisors; if they have anything useful to say on the current situation it will appear there.

Turning Off the Advisors

You can determine how much assistance you get from the Advisors on the “Options” screen. You can set the advice level to Full, Minimal, or No Advice. If turned off, they won't ever appear in popups, but you can still go to the “Advisor Counsel” screen to see what they're thinking.

THE INTERFACE

The Main Screen

The Main Screen is where you'll spend the bulk of your time. Here you move your units, engage in combat, build cities, and so forth.



The Main Map

This is where the action takes place. The Main Map displays the “known world” – the places you’ve explored, your cities, the terrain, resources and improvements around them, your units, and all neutral and foreign lands that are “visible” to you.

Navigating the Main Map

There are a number of ways that you can change your point of view on the Main Map.

Zoom In and Zoom Out

Use your mouse wheel or press [PageUp] or [PageDown] to zoom in and out.

Re-Center

Click on a space on the Main Map to center your view on that space.

Auto-Center Upon Unit Activation

When a unit becomes “active” during your turn the Main Map automatically centers upon that unit.

Manually Center Upon Active Unit

Click upon the active unit's icon to center upon that unit.

MINI MAP

Click on a space on the Mini Map to center the Main Map on that space.

Click and Drag

Click and drag anywhere on the map to manually scroll the map view around.

The Mini Map

The Mini Map is a much smaller representation of the world. As described above, you can re-center the Main Map by clicking on a location on the Mini Map.

The Strategic View



Click on the "Strategic View" button to enter Strategic View mode. In this mode, the map and units are represented in a more simplified and less representational manner that some players find useful (and others find baffling). Check it out and see which kind of player you are!

The Mouse

Civilization V is best played with a combination of keyboard and mouse. The mouse is used in two ways, you left-click to open menus and accept menu choices, to "activate" units, to re-center the map, and so forth.

You right-click on a map location to order active units to move to the space you've right-clicked upon.

The Keyboard

There are a lot of keyboard "shortcut" keys in *Civilization V*. See the "README.TXT" file which is installed with the game for a full list. The chart at right shows some of the most important:

Shortcut Keys

Shortcut Key	Action
Enter	End Turn
Space	Skip Unit
Period	Next Unit
Comma	Previous Unit
F1	Civilopedia
F2	Economic Info
F3	Military Info
F4	Diplomacy Info
F5	Tech Screen
F6	Social Policies
F10	Strategic View
F11	Quick Save
F12	Quick Load

FOG OF WAR

The world is a big place, and you don't always know what's going on everywhere. Early civilizations certainly didn't have any idea what the people on the other side of the mountains looked like until they sent out explorers; unless they put out sentries, they might not know that an enemy was massing a huge army just outside of their own borders. In *Civilization V*, until you explore the world, it's hidden in the "fog of war."

The fog of war is represented by the white clouds that cover much of the world at the start of the game. As you move units around, the fog of war will pull back, revealing more of the world. Once you have uncovered the fog of war from a tile, it doesn't come back. However, if a unit moves and you can no longer see a tile, you won't know if anything is going on there.



The Three States of Knowledge

Visible

If a tile is currently visible to a unit or your territory, you can see its terrain, any improvements on it, if it's within any borders, whether it's part of a city, any unit which may occupy it, and so forth. Subject to technology limitations, you'll see the resources in the tile as well.

Revealed

If you have uncovered the fog of war from a tile but cannot see it at the present moment (because the exploring unit has moved away, for instance), the tile is slightly darkened. You can still see the terrain in the tile, but you will not see any units in the tile. You may not see any improvements, recently-constructed cities, and so forth. Basically, your information about that tile may be well out of date.

Fog of War

Tiles under the clouds of the fog of war are totally unknown to you. You don't know what kind of terrain they are, who occupies them, or anything else. For all you know they may be flowing with gold or patrolled by ninja dinosaurs. You'd better get someone out to explore them as quickly as possible!

What is Seen

You can always see everything within your borders, as well as one tile away from your borders. Most units can see everything within 2 tiles (except for tiles behind mountains and blocking tiles; see below). Units on hills can see over blocked tiles. Certain promotions will extend a unit's sight by 1 tile, and a number of mid- to late-game naval units have extended sight as well.

Obscuring Terrain

Mountains and Natural Wonders are impenetrable: they totally bar visibility of what's beyond for everything (except for flying units).

Forests, mountains and hills are all “blocking” terrain. Units can see *into* such tiles, but they cannot see *past* them – unless they occupy a hill. Units on hills can see over blocking terrain into the tiles beyond.

Indirect Fire

Some ranged units are capable of “indirect fire,” which means that they can shoot at targets they can't see, as long as another friendly unit can see them. For example, an Artillery unit can shoot over a hill at a target it can't see if a friendly unit is atop that hill.





GAME INFO SCREENS

Civilization V contains the following information screens. They tell you lots of useful stuff about how well you're doing. The screens are accessible from buttons on the Main Map, and via "shortcut keys."

Research Info



This button toggles the "Research Info" screen, which displays your current research project. It shows how many turns remain for the research, and what the research "unlocks." See "Technology" on page 82 for more details.

Unit List Panel



This button toggles the "Unit List" panel, which lists all of your units and their statuses. Click on a unit in the list to activate that unit and center the screen on it. See the unit section for details.

Click on the "Military Overview" button to go to that screen (see "Military Overview" on page 26).

City List Panel



This button toggles the "City List" panel. Click on a city to open that City Screen. See the city section for details.

Click on the "Economic Overview" button to go to that screen (below).

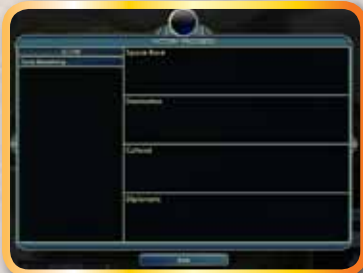
Diplomacy Info Panel



This button toggles the “Diplomacy List” panel. Click on an entry to conduct diplomacy with a known civilization or city-state. This screen also shows the game score. See “Diplomacy” on page 111 and “Victory and Defeat” on page 115 for more details.

Click on the “Diplomacy Overview” button to go there (see below).

Victory Progress Screen



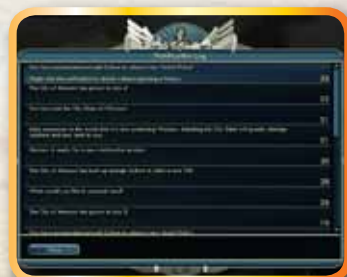
This button brings up the “Victory Progress” screen. This shows your current progress on the various paths to victory available in the game. See “Victory and Defeat” on page 115 for details.

Demographics Screen

Statistic	Value	Best	Average	Worst
Population	1 People	1	1	1
City Count	1 Million People	1	1	1
Domesticated Animals	1,000,000,000	1	1	1
Gold	1 Million Gold	1	1	1
Land	1 Square Mile	1	1	1
Units	1 Soldier	1	1	1
Research	100%	100	100	100
City Size	1%	1	1	1

This screen provides lots of info about your civilization – its size, wealth, military, output, and so forth. It allows you to compare your civ with others as well, showing your ranking, as well as the average, best and worst scores in each categories.

Notification History



This screen lists all of the notifications your civilization has received over the course of the game, and the turns you received them. Check it out periodically to ensure that you haven't missed any vital information!

Military Overview



This screen displays all of your units, plus your supply status. It also shows your progress towards acquiring a Great General. See “Great People” on page 99 for details.

Economic Overview



This screen provides a more in-depth list of your cities, showing their population, defensive strength, output of food, science, gold, culture and productivity, and what it is currently building and how long until it is complete. Click on a city to open that City Screen.

Diplomatic Overview



The screen displays your current diplomatic status with all of the other civilizations and city-states.



Deal History Screen

This shows you diplomatic deals in progress, plus other important data about previous diplomatic deals.

Advisor Council Screen



This screen provides access to all of your advisors, who will give you valuable advice on running your mighty empire. See "Advisors" on page 19 for details.

Social Policies Screen



This screen displays all of your social policies, as well as others that you have not yet acquired. See "Social Policies" on page 93 for details.

TERRAIN

In *Civilization V*, the world is made up of hexagonally-shaped “tiles” (also occasionally referred to as hexes and spaces). These tiles come in a variety of “terrain-types” – desert, plains, grassland, hills and so forth – and many also include “features” like forests and jungle. These elements help to determine the tile’s usefulness to a nearby city as well as how easy or difficult it is to move through the tile. A tile’s terrain and features may have important effects upon any combat occurring there.

Resources

Resources are sources of food, productivity, or culture, or they provide other special bonuses to a civilization. They appear in certain hexes. Some are visible at the start of the game; others require the acquisition of specific technologies before you can see them. See “Resources” on page 36 for more details.

Terrain Types

There are nine basic terrain types in the game. (You may not see all nine in a given game, though.)

Explanation of Terrain Values:

City Yield: This is how much food, gold or productivity a nearby city can get from an unimproved tile of that type.

Movement Cost: The cost, in movement points (MPs) to enter the tile type.

Combat Modifier: The change in attack or defense strength of a unit occupying that tile type.

Coast



Coast hexes are the ocean hexes directly adjacent to land. They provide food and gold to a nearby city. Only naval units and “embarked” land units may enter coastal hexes.

Food: 1

Production: 0

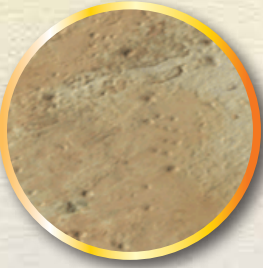
Gold: 1

Combat Modifiers: None

Movement Cost: 1

Cannot build cities on coasts; only naval units or embarked units may enter this kind of tile.

Desert



In general, desert hexes are remarkably unuseful. They provide no benefits to cities (unless the desert contains an oasis or resource, of course), and units occupying them receive a significant defensive penalty in combat.

Food: 0

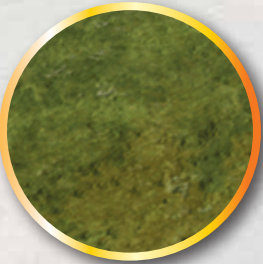
Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

Grassland



Generally, grassland produces the most food of any terrain type. Cities constructed near grasslands will tend to grow faster than cities built elsewhere. This tile's major drawback is the defensive penalty that an unprepared unit might get if attacked.

Food: 2

Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

Hills



Hills are well, hilly. They're difficult to farm and hard to move through, but they provide good defensive bonuses and many different resources can be found therein. In addition, units atop hills can see over "blocking terrain." Hills provide increased productivity to a nearby city, as well as important combat bonuses.

Food: 0

Production: 2

Gold: 0

Combat Modifiers: +25%

Movement Cost: 2

Mountain



Mountains are tall upthrusts of terrain, impossible for non-flying units to move through. They're not particularly helpful to a civilization, except as barriers to invasion.

Food: 0

Production: 0

Gold: 0

Combat Modifiers: +25%

Movement Cost: Impassable

Mountains are impassable except to air units.

Ocean



Ocean hexes are deep-water hexes. They provide food and gold to a city, once the city has the technology to access them.

Food: 1

Production: 0

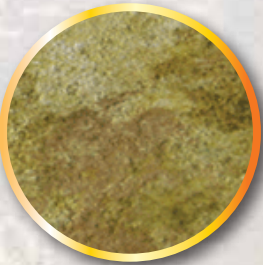
Gold: 1

Combat Modifiers: None

Movement Cost: 1

Oceans are only useful for Food and Gold once the nearby city has the proper technologies to access them.

Plains



Plains provide a mix of food and production to a nearby city. A city surrounded by plains will grow more slowly than one in grassland, but it will be far more productive.

Food: 1

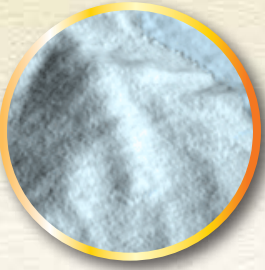
Production: 1

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

Snow



Snow is quite unproductive, with no food or production benefit to a nearby city. Of course a snow hex might contain a useful resource, but otherwise they're just cold and barren.

Food: 0

Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

Tundra



Tundra is the semi-frozen land found in the world's colder climates. It is less useful than plains or grassland, but slightly better than desert. Nobody builds cities in the tundra unless they're desperate for resources – or they've got nowhere else to go.

Food: 1

Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

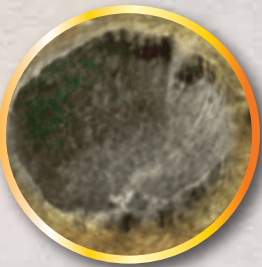
Features

Features are elements of terrain or vegetation that appear in a hex, atop the hex's terrain. (A grassland hex might have forest or marsh on it as well, for example.) Features modify a hex's productivity and might also alter the amount of "movement points" (MP) a unit expends when entering the hex. Features may also provide defensive combat bonuses or penalties to a unit occupying the hex.

Feature Values

Like terrain, features also have values that determine city yield, movement, and combat.

Fallout



Fallout is a special "feature" (it's more of an anti-feature, really) that appears after the nukes begin flying. Fallout badly reduces the output of a tile until it is cleaned up by a worker.

Food: -3

Production: -3

Gold: -3

Combat Modifiers: -33%

Movement Cost: 2

Fallout must be cleared by a Worker before any Improvements can be built.

Flood Plains



Flood plains are low-lying areas adjacent to rivers. Every year the river floods, providing natural irrigation and rich nutrients to the land, making flood plains incredibly fertile and the most productive farmland in the world. Ancient Egypt owed most of its wealth and power to the annual flood of the mighty Nile River.

Food: 2

Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 1

Flood Plains are only found in tiles bordering a river.

Forest



For early man, forests were a great source of bounty, providing wood for fire, tools and shelter, and also many animals for sustenance and clothing. As a city grows there is a great temptation to cut down the forests for farmland, but a wise leader will always leave some standing — for productivity and to lift his people's spirits. Also, military units stationed in forests receive a significant defensive bonus.

Food: 1

Production: 1

Gold: 0

Combat Modifiers: +25%

Movement Cost: 2

Tiles with forests covering them *always* yield 1 Food and 1 Production, regardless of the underlying terrain type.

Ice



Ice is just that: ice. It's almost entirely useless to civilization. It is impassable (except to flying units and submarines) and provides no yields. Stay away from ice.

Food: 0

Production: 0

Gold: 0

Combat Modifiers: None

Movement Cost: Impassable

Ice tiles are impassable except to air and submarine units.

Jungle



Dark, forbidding, and deadly to the uninitiated, jungles are a rich source of food to those with the skill and knowledge to live within them. However, jungles do not provide much in the way of materials, and a growing civilization may be tempted to mine them or turn them into cropland. However, military units situated in jungles receive a significant defensive bonus. When chopped, Jungle tiles become Plains.

Food: 1

Production: -1

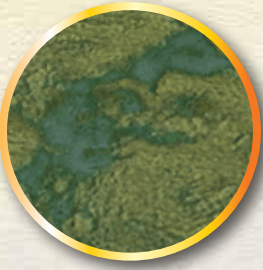
Gold: 0

Combat Modifiers: +25%

Movement Cost: 2

When chopped down, Jungle tiles become Plains.

Marsh



Although rich in biodiversity, marshes have little to offer a hungry growing civilization. Marshes can be drained or farmed to increase their yield. Note that military units in marshes receive a significant PENALTY when attacked.

Food: -1

Production: 0

Gold: 0

Combat Modifiers: -33%

Movement Cost: 2

Oasis



An oasis is an especially lush and verdant area within a desert, usually because it sits atop a source of clean and plentiful water. Oases are extremely valuable resources in an otherwise barren and lifeless desert, and countless battles have been fought between desperate desert tribesmen to possess them.

Food: 3

Production: 0

Gold: 1

Combat Modifiers: -33%

Movement Cost: 1

Oases may only be found on Desert tiles.

Natural Wonders



Natural wonders are the great and glorious creations of nature that awe and inspire us all. These include sites like Lake Titicaca and the Great Barrier Reef – places that truly display the grand beauty of the natural world. In addition to providing wealth and production, Natural Wonders permanently increase happiness when first seen by a civilization.

Natural wonders are impassable (except to air units).

City Yield: 2 production, 3 gold

Movement Cost: impassable

Combat Modifier: none

Rivers

Traditionally, cities have been built along rivers, and for good reason. Rivers provide irrigation, improving the farmland around the city, and they also protect a city, as it is quite difficult to mount an assault against a city across a river.

River Locations

Unlike other features, rivers run along the sides of the tiles rather than through them, so rivers provide their benefits to the tiles/units adjacent to them.

City Yield Modifier

Rivers give +1 gold to adjacent tiles.

Offensive Penalty

When attacking across a river, the attacking unit gets a 25% penalty to its combat strength.

Movement Effect

A unit uses up all of its movement points when crossing a river. There is no additional cost for crossing a river if a road passes over the river and your civ has the Construction tech.

RESOURCES

Resources are sources of food, productivity, or culture, or they provide other special bonuses to a civilization. To a large degree your civilization's wealth and power will be determined by the number and kinds of resources you control. To utilize a resource, it must be within your civilization's borders and you must construct the appropriate "improvement" in that hex. (For example, you must construct the "plantation" improvement to get the benefit from a "banana" resource.)

There are three different kinds of resources: bonus, strategic, and luxury. All three provide yield benefits to nearby cities, and strategic and luxury resources have additional important benefits (see below).

While you may not have access to every kind of resource within your own borders, you can trade some resources with other civilizations.

Bonus Resources

Bonus resources increase the food and gold output of a hex. Bonus resources cannot be traded to other civilizations.

Bananas



Food: +1

Production: 0

Gold: 0

Can be Found on: Jungles

Improvement Needed to Access: Plantation

Cattle



Food: +1

Production: 0

Gold: 0

Can be Found on: Grasslands

Improvement Needed to Access: Pasture

Deer



Food: +1

Production: 0

Gold: 0

Can be Found on: Forests, Tundra, or Hills

Improvement Needed to Access: Camp

Fish



Food: +2

Production: 0

Gold: 0

Can be Found on: Coast

Improvement Needed to Access: Fishing Boats

Sheep



Food: +1

Production: 0

Gold: 0

Can be Found on: Grasslands or Hills

Improvement Needed to Access: Pasture

Wheat



Food: +1

Production: 0

Gold: 0

Can be Found on: Flood Plains or Plains

Improvement Needed to Access: Farm

Luxury Resources

Luxury resources increase your civilization's happiness and provide a small bonus to the hex's output. Only one source of a specific luxury provides a happiness bonus. Multiple sources of the same resource do not further increase a civ's happiness (however, they're still valuable since they can be traded to other civs). You do get increased happiness bonuses for each type of luxury resource you possess, though. In other words, if your civ has 1 or 2 silk, you get the same happiness bonus, but you'd double the bonus if you traded the second silk to another civ in return for sugar.

Cotton



Food: 0

Production: 0

Gold: +2

Can be Found on: Grasslands, Plains, or Desert

Improvement Needed to Access: Plantation

Dyes



Food: 0

Production: 0

Gold: +2

Can be Found on: Jungle or Forest

Improvement Needed to Access: Plantation

Furs



Food: 0

Production: 0

Gold: +2

Can be Found on: Forest or Tundra

Improvement Needed to Access: Camp

City Resource Requests and 'We Love the King Day'

Periodically a city may request that you acquire a specific luxury resource. If you do so, the city will go into "We Love the King Day" for 20 turns, during which the city's growth rate is increased by 25%. When the 20 turns are over, the city will demand another luxury resource. Filling that request will cause the city to resume WLtKD for another 20 turns.

Gems



Food: 0

Production: 0

Gold: +3

Can be Found on: Jungle, Grasslands, Plains, Desert, Tundra, or Hills

Improvement Needed to Access: Mine

Gold



Food: 0

Production: 0

Gold: +2

Can be Found on: Grasslands, Plains, Desert, or Hills

Improvement Needed to Access: Mine

Incense



Food: 0

Production: 0

Gold: +2

Can be Found on: Desert or Plains

Improvement Needed to Access: Plantation

Ivory



Food: 0

Production: 0

Gold: +2

Can be Found on: Plains

Improvement Needed to Access: Camp

Marble



Food: 0

Production: 0

Gold: +2

Can be Found on: Grasslands, Plains, Desert, Tundra, or Hills

Improvement Needed to Access: Quarry

Pearls



Food: 0

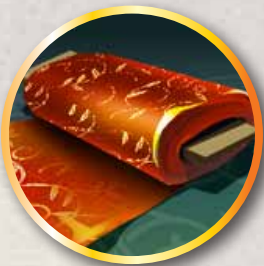
Production: 0

Gold: +2

Can be Found on: Coast

Improvement Needed to Access: Fishing Boats

Silk



Food: 0

Production: 0

Gold: +2

Can be Found on: Forest

Improvement Needed to Access: Plantation

Silver



Food: 0

Production: 0

Gold: +2

Can be Found on: Tundra, Desert, or Hills

Improvement Needed to Access: Mine

Spices



Food: 0

Production: 0

Gold: +2

Can be Found on: Jungle

Improvement Needed to Access: Plantation

Sugar



Food: 0

Production: 0

Gold: +2

Can be Found on: Flood Plains or Marsh

Improvement Needed to Access: Plantation

Whales



Food: +1

Production: 0

Gold: +1

Can be Found on: Coast

Improvement Needed to Access: Fishing Boats

Wine



Food: 0

Production: 0

Gold: +2

Can be Found on: Grassland or Plains

Improvement Needed to Access: Plantation

Strategic Resources

Strategic resources are not visible at the start of the game: they require knowledge of a particular technology before they appear on a map. Horses, for example, do not appear until you know Animal Husbandry, and Iron doesn't show up until you learn Iron Working.

Strategic resources allow you to build certain units and buildings. When you construct an improvement on a strategic resource hex, it provides you with a limited number of those resources, and these are consumed when you construct the associated units or buildings. For example, you use one iron resource to build each Swordsman unit. If you don't have any iron available, you can't construct the Swordsman. The resource becomes available to you once more if the unit or building is destroyed.

You can trade strategic resources with other civilizations.

You can see how many units of each strategic resource you have available on the top of the main screen.

Aluminum



Food: 0

Production: +1

Gold: 0

Can be Found on: Plains, Desert, Tundra, or Hills

Technology Revealed By: Electricity

Improvement Needed to Access: Mine

Units Requiring this Resource: Helicopter Gunship, Jet Fighter, Missile Cruiser, Mobile SAM, Modern Armor, Rocket Artillery, Stealth Bomber, Nuclear Submarine

Buildings Requiring this Resource: Hydro Plant, Spaceship Factory

Coal



Food: 0

Production: +1

Gold: 0

Can be Found on: Grasslands, Plains, or Hills

Technology Revealed By: Scientific Theory

Improvement Needed to Access: Mine

Units Requiring this Resource: Ironclad

Buildings Requiring this Resource: Factory

Horses



Food: 0

Production: +1

Gold: 0

Can be Found on: Grassland, Plains, or Tundra

Technology Revealed By: Animal Husbandry

Improvement Needed to Access: Pasture

Units Requiring this Resource: Chariot Archer, Companion Cavalry, Horseman, Cavalry, Cossack, Lancer, Sipahi, Camel Archer, Knight, Mandekalu Cavalry

Buildings Requiring this Resource: Stable, Circus

Iron



Food: 0

Production: +1

Gold: 0

Can be Found on: Grassland, Plains, Desert, Tundra, Snow or Hills

Technology Revealed By: Iron Working

Improvement Needed to Access: Mine

Units Requiring this Resource: Ballista, Catapult, Mohawk Warrior, Swordsman, Longswordsmen, Samurai, Trebuchet, Frigate, Ship of the Line, Anti-Aircraft Gun, Anti-Tank Gun, Zero,

Buildings Requiring this Resource: Forge

Oil



Food: 0

Production: +1

Gold: 0

Can be Found on: Jungle, Marsh, Desert, Tundra, Snow, or Ocean

Technology Revealed By: Biology

Improvement Needed to Access: Oil Well or Offshore Platform

Units Requiring this Resource: Battleship, Carrier, Fighter, Panzer, Submarine, Tank, Zero, B17, Bomber

Buildings Requiring this Resource: None

Uranium



Food: 0

Production: +1

Gold: 0

Can be Found on: Forests, Jungle, Marsh, Grassland, Plains, Desert, Tundra, Snow, or Hills

Technology Revealed By: Atomic Theory

Improvement Needed to Access: Mine

Units Requiring this Resource: Giant Death Robot, Atomic Bomb, Nuclear Missile

Buildings Requiring this Resource: Nuclear Plant

UNITS

In *Civilization V*, the term “unit” refers to anything that can move around the map. There are a number of different types of units in play – military units, Workers, Settlers, Great People, and the like, with military units forming the bulk of them.

Constructing Units

Units are built in cities. Each unit has a certain “Production Cost” which determines how many points of Production a city must expend to produce the unit. In addition, in order to construct a unit your civilization must have knowledge of the requisite technology (you must know the “Archery” technology, for example, to construct Archer units). Some units also require that your civ have access to certain resources to construct them (Swordsmen require Iron, for instance).



Unit Characteristics

All units have three basic statistics (stats): movement speed, combat strength, and promotions.

Movement Speed

A unit's Movement Points (MPs) determines how many clear tiles a unit can move through. Most early units have 2 MPs. See “Movement” on page 51 for more details.

Combat Strength

A unit's Combat Strength (CS) determines how powerful it is in combat. The Warrior, the earliest combat unit available, has a CS of 6. Non-combat units like Settlers and Workers have CS's of 0 (zero). They are defeated (captured or destroyed) when attacked by any military unit.

Promotions

A military unit may earn “promotions” through advanced training or from hard-won experience gained through battle. See “Unit Promotions” on page 145 for more details.

Unit Special Abilities

Many units have special abilities, allowing them to do things better than other units, or to do things that other units cannot do at all. Settler units can found new cities, for example, and no other units can do so. An Archer unit can deal “ranged” damage, allowing it to attack an enemy that is not adjacent to it, while most combat units cannot. Check out a unit's Civlopedia entry to see its special abilities.

National Units

Each civilization in *Civilization V* has one or more special “national units.” These units are unique to that civilization, and they are in some way superior to the standard version of that unit. The American civilization, for example, has a Minuteman unit, which is superior to the standard Musketman available to other civs, and it also possesses the B17, replacing the Bomber unit. The Greek civ has the Hoplite and Companion Cavalry units, which replace the Spearman and Horseman other civs get.

See each civilization's Civlopedia entry or check the civilization list later in this manual to discover its special unit.

Unit Movement

Generally, units move from hex to hex, paying the “Movement Cost” required to enter that new hex. Units are subject to “Stacking” limitations – two military units may not end their turn in the same hex, nor can two non-military units, *but* one military and one non-military unit may end their turn stacked in the same hex. Most units are limited in where they can move – land units cannot enter mountain hexes and naval units cannot enter land hexes (except for port cities). Improvements like roads and railroads speed a unit's movement through land hexes.

Check out the section on Movement for details.



Unit Combat

Military units can engage in combat against other units or against cities. Most military units are “melee units,” meaning that they can attack only enemies in hexes directly adjacent to them. Some military units are “ranged units,” meaning that they can attack enemies one or more hexes away.

See “Combat” on page 54 for details.

Unit Promotions

If a military unit survives combat, it may gain "Experience Points" (XPs), which can be used to purchase "promotions" for the unit. Promotions may improve a unit's combat ability in certain circumstances – say, when defending in forests – or give it some other advantage in battle.

See "Unit Promotions" on page 145 for more information.

Non-Combat Units

There are four types of non-combat units: Settlers, Workers, Work Boats, and Great People. Each is critically important to a civilization's success. As the name "non-combat" would suggest, these units cannot fight. If attacked by an enemy unit while alone in a hex, they are automatically captured or destroyed. Therefore it usually makes sense to escort them with a military unit when sending them out into the wilderness.

Combat Units

Combat units are divided into several categories. These include "Melee Units," "Ranged Units," "Naval Units," "Air Units," and "Missile Units."

Melee Units

Melee units are land units which can attack enemies in adjacent land hexes. They cannot attack enemies at sea, nor can they attack enemies more than one hex away. Melee units include Warriors, Spearmen, Musketmen, Infantry, and more. Most of your military units are melee units.

Ranged Units

Ranged units are units that can attack enemies in adjacent hexes and in hexes one or more spaces away. The distance a unit can attack is determined by its "Range" statistic. The strength of its ranged attack is determined by its "Ranged Combat" statistic. An Archer unit, for example, has a Combat Strength of 7, a Ranged Combat Strength of 8, and a Range of 2. It can attack enemy units one or two hexes away with a Strength of 7. However, if an enemy unit attacks it, it defends with its Combat Strength of 4.

Note that Ranged units always employ Ranged combat when attacking another unit, even if that unit is adjacent. The Ranged unit uses its Combat Strength only when it is defending against an attack by another unit.

Naval Units

Naval units are units that can move in water hexes. They cannot enter land hexes, except for coastal cities. Depending upon its type, a naval unit may be limited to travel in coastal waters, or it may be able to enter deep water Ocean hexes. Naval units are Ranged Combat Units (see above).

Air Units

Air units are units which, not surprisingly, travel through the air. They are critically important during the late game, as control of the skies often determines victory or defeat in modern warfare.

Nuclear Units

Nuclear units are the most powerful units in the game. They blow a lot of stuff up, destroying units, cities, improvements and pretty much everything else. Land that has been subject to nuclear attack is badly polluted, requiring major reclamation efforts before it can be made safe and useful once again.

Unit Action List

When a unit is active, it may have one or more "actions" available to it. Click on the unit's action icon to order it to perform that action.



Move to: Order the current unit to move to the selected tile.



Sleep: Order the unit to remain inactive until the player provides it new orders. It will not become active again the next turn and must be manually selected.



Alert: Order the unit to remain in the current tile and sleep until it sees an enemy. The unit receives a defensive bonus.



Fortify: The Unit remains inactive until the player provides it new orders. The unit receives a defensive bonus.



Garrison: Garrison a unit in this city, improving its Combat Strength. This option will only appear if a unit is occupying the same tile as a city.



Set Up for Ranged Attack: Required for Ranged Siege Units before they can attack.



Embark: Loads this unit onto a boat, allowing it to cross over water tiles. Embarking is only possible once specific technologies are known.



Disembark: Unload the unit from the boat back onto a land tile.



Intercept: This order will instruct the unit to attempt an interception with any incoming air attacks and neutralize them.



Fortify Until Healed: The unit remains inactive until it heals back to full strength. The unit receives a defensive bonus and heals 1HP per turn.



Nuke: Launches a nuclear weapon at the chosen tile. The target and all surrounding ones in the radius of the weapon will receive massive damage.



Paradrop: Order the unit to paradrop to the specified location. This mission is subject to interception.



Air Sweep: Order the air unit to attack enemy units in the selected tile.



Rebase: Order the air unit to rebase to a different city.



Range Attack: Perform a ranged attack on the selected tile.



Pillage: Order the unit to destroy the improvement on the current tile. The improvement must be repaired before it can be used again.



Found City: Order a Settler unit to found a new city in the current tile. The Settler is consumed in the process.



Discover Tech: This will have the Great Person help research a new technology. It consumes the Great Person.



Hurry Production: This order will hurry production on the city's current Wonder-building effort. It consumes the Great Person.



Conduct Trade Mission: If the unit is inside a City-State's territory, this order will have a Great Merchant conduct a trade mission, giving you a large amount of Gold and improving relations with the City-State. It consumes the Great Person.



Build Spaceship: Contribute a part to the Alpha Centauri Spaceship. The unit will be consumed and must be in your Capital City to use this.



Culture Bomb: This order will consume the Great Person and make the tile this unit is on, as well as all adjacent tiles, become part of your borders, even if they belong to another player.



Start Golden Age: This order will consume the Great Person and initiate a Golden Age for 8 turns. Golden Ages give you extra Production and Gold for the period they are active.



Build Citadel: This order will consume the Great Person and construct a citadel improvement on the current tile.



Construct Landmark: This order will consume the Great Person and build a landmark improvement on the current tile.



Build Custom House: This order will consume the Great Person and construct a custom house improvement on the current tile.



Construct Manufactory: This order will consume the Great Person and construct a manufactory on the current tile.



Cancel: Cancel the last order given to the unit. You may find this to be very useful if you accidentally queue up the wrong order or actions.



Automate Explore: Order the unit to explore uncharted regions of the map. This unit will continue to move every turn until you cancel its automation.



Wake: Wake up the sleeping unit.



Delete: Permanently delete the active unit and receive a small amount of gold in return.

MOVEMENT

During a game of *Civilization V*, much of your time will be spent moving units around the world. You'll be marching your military units off to discover stuff or to fight with your neighbors. Your workers will be moving to new tiles to improve terrain and to construct roads. Your Settlers will be moving to good locations on which to build new cities.

Following are rules for moving land units and naval units. Air units have their own special rules; since they don't occur until late in the game, they're covered elsewhere.

How to Order a Unit to Move

Right-Click

When a unit is active, you can right-click anywhere on the map to order the unit to move there.

Move Mode

You can also click on the "Move Mode" Action button, then left-click on a target space.

Legal and Illegal Moves

If the target location is illegal for the unit, it will decline the order and wait for new instructions. . The movement cursor will turn red on attempted illegal moves. If the location is legal and the unit can reach that location in one turn, it will do so.

Multiple-Turn Move Orders



If the unit requires multiple turns to reach the location, it will pick the shortest route and proceed on its way. It will continue to move each turn until it gets to the assigned spot.

If it becomes impossible for the unit to reach its target location — say, because exploration reveals that the tile is across the ocean and the moving unit can't embark (see "Illegal Moves" on page 52), or perhaps because another unit has sat down in the target location — the unit will stop and request new orders.

You can change a unit's orders at any time by clicking on the unit and then either giving it new orders or clicking on the "Cancel Orders" action.

Movement Points

All mobile units have a certain number of "Movement Points" (MPs) that they can expend on movement in every turn. Once they've expended those MPs, they can't move any more until the next turn (except for a few very special units; see "Air Bases" on page 120).

Most early units land units have 2 MPs; horse and naval units have more.

Expending Movement Points

Units expend MPs to enter tiles. The terrain of the tile a unit is entering determines the MP cost of the move. It doesn't cost anything to *leave* your current tile; the MP cost is only calculated by the tile you're entering.

See "Terrain Types" on page 28 for details on MP costs, but generally, open terrain like Grassland and Plains costs 1 MP to enter, while Forest and Jungle costs 2. It also expends all of a unit's MPs to cross a river (unless a road is there; see below).

A unit can always move one tile if it has any MPs left. It doesn't matter how expensive the tile is; as long as the unit has something left, it can enter. Once the unit has expended all of its MPs, it must stop moving.

Road and Railroads



Roads and railroads cut a unit's movement cost in friendly or neutral territory. As long as the unit moves from one tile containing a road/railroad into another tile containing a road/railroad, the unit will expend just a fraction of the normal cost to move. As long as the unit has any MPs left, it can continue to move along the road/railroad.

Rivers and Roads/Railroads

Once you've learned the "Construction" tech, you can move across rivers on roads/railroads without paying the standard penalty. If you don't have Construction yet, you must pay the penalty even if crossing over on a road.

Illegal Moves

Certain tiles cannot be entered by certain units. A naval unit can't enter a non-city land tile, for example, and a land unit cannot enter a mountain tile or an ocean tile. If a unit can't enter a tile, you won't be able to order it to move there. Sometimes a move is revealed as illegal during a unit's move. If that is the case, the unit will stop when it discovers the illegality and wait for new orders.

Stacking Limitations



Remember that only one combat unit can end its turn in a tile, and only one non-combat unit can end its move in a tile – though a single combat unit and a single non-combat unit can end their turn "stacked" in the same tile.

A unit may pass *through* another unit as long as it has enough movement to complete the full move, and does not end up on top of another unit of the same type.

Movement During Combat

Attack Orders

Generally, if you order a unit to move into a space occupied by an enemy unit, the unit will interpret that order as instructions to attack the enemy unit. If the moving unit is a non-combat one, the unit will stop and ask for new orders.

Zones of Control

Combat units exert a "Zone of Control" (ZOC) over the tiles around them. When a unit moves between two tiles within an enemy's ZOC it expends all of its MPs.

Naval Movement

Generally, naval units follow the same rules as land units, except that they move in the water rather than on land. Early naval units are often limited to coastal waters (those adjacent to land tiles) and coastal cities. Eventually, you'll produce naval units that can enter deep ocean tiles, and thus explore the world. Naval units cannot enter ice tiles (except for submarines, which can go under 'em).

Embarking Land Units



At the start of the game, your land units cannot enter any water tiles. However, once you've learned the Optics technology, a unit can earn the promotion that allows it to "embark" and move into coastal water tiles. To embark a unit, move the unit to a coastal tile and then click on the "Embark" Action. Once embarked, the unit must move into water. (Optics allows movement into coastal water only. The later Astronomy tech allows embarked units to enter ocean tiles.)

In the water the embarked unit is very slow and helpless. It is totally unable to fight, and any enemy naval vessel can easily destroy it. It's critical to accompany embarked land units with a strong naval defense. When the unit is adjacent to a land tile, you can click on the "Disembark" action. The unit will then be able to return to dry land. Alternatively you can right-click on a land tile and the unit will disembark automatically.

COMBAT

Combat occurs between two political entities that are at war with each other. A civilization may be at war with another civ or with a city-state. Barbarians are *always* at war with all civilizations and city-states.

There are three major forms of combat: melee, ranged, and air combat. The first two occur throughout most of the game, while air combat doesn't happen (naturally) until somebody discovers flight.

Since it occurs so late in the game you needn't be concerned with how to conduct air combat when you begin play. Air combat is discussed later, in its own section (see "Air Combat" on page 119).

Declaring War

War against another civ may be declared in a couple of different ways, or you may find yourself on the receiving end of an enemy's declaration.

Diplomatically Declaring War

You may declare war on a civilization through the Diplomacy panel (see "Diplomacy" on page 111). You may declare war on a city-state by clicking on the city-state's city and picking "Declare War" from the pop-up.



Attacking Another Unit

You can simply order one of your units to attack another civ's units. If you're not currently at war with the civ you're attacking, a pop-up will appear asking if you want to declare war on that civ (or city-state); if you choose to do so, the attack occurs. If you decline, the attack is aborted.

Entering a Civilization's Territory

It is also an act of war to enter a civ's territory if you don't have an "open borders" agreement with that civ. A pop-up will appear and ask you to confirm your move. Note that it isn't an act of war to cross a city-state's borders, so no pop-up will appear in that case.

Receiving an Enemy Declaration of War

At any time another civilization or city-state may declare war on you. If so, you'll be informed by an unpleasant popup (or notification). You may have an opportunity to try to negotiate your way out of the conflict, or you may have no choice but to fight. See "Diplomacy" on page 111 for details.

Barbarians are always at war with you, so you'll never get a declaration of war from them.

Ending a War

Wars end automatically when one side has been destroyed because it has lost its last city.

Or the combatants can agree to halt hostilities short of this unpleasant eventuality through diplomatic negotiations. You or your opponent may choose to initiate such discussions. See “Diplomacy” on page 111 for details.

Barbarians cannot be negotiated with. You'll remain at war with them as long as they're around.

Which Units Can Fight

Any military unit may attack an enemy unit. Non-military units such as Workers, Settlers, and great people may not initiate attacks. If attacked while on their own, Workers and Settlers are captured (captured Settlers turn into Workers) and Great People and Work Boats are destroyed.

A city may attack an enemy military unit that is within the city's Ranged Combat Range (see “Ranged Combat” on page 57), and a unit may in turn attack an enemy city.

Unit Combat Statistics



A military unit's combat abilities are determined by its combat statistics. There are four basic combat stats:

Ranged Combat Strength

Only units able to engage in “Ranged Combat” have this stat. It is the ranged unit's combat strength when it is attacking.

Range

Only ranged combat units have this stat. It is the distance, in tiles, within which the ranged combat unit can attack the enemy.

Combat Strength

All military units have this stat. Melee units use their Combat strength when attacking or defending. Ranged units use their Combat strength when defending.

Hit Points

A unit's health is measured in “Hit Points”. When fully healthy, all combat units have 10 hit points. As it takes damage, it loses hit points. If a unit's hit points reach 0, it is destroyed.

Melee Combat

Melee combat occurs when a melee unit (any military unit which doesn't have the Ranged Combat ability) attacks an enemy unit or city. It doesn't matter if the defender has Ranged Combat; as long as the *attacker* doesn't have Ranged Combat the resulting battle will be melee.

Combat Strength

When two units engage in melee combat, the result is determined by the relative strengths of the two units – e.g., if a powerful unit fights a weak one, the powerful unit is likely to do a lot more damage to its enemy, possibly destroying it altogether.

However many different factors may affect a unit's strength in battle. Many units receive "defensive bonuses" that will increase their melee strength when they are attacked while occupying forests or hills, or are fortified. Some units get bonuses when fighting other specific unit types (spearmen get bonuses when fighting mounted units, for example). Also, a unit's injuries may reduce its current combat strength. (See "Combat Bonuses" on page 58 for details.)

The Combat Information Table (see below) will help you determine the relative strengths of two melee units during your turn.

Multiple Units in Combat

Units receive a "flanking" attack bonus of 15% for each unit adjacent to the target unit. Some promotions and social policies give an attacking unit additional bonuses beyond the basic flanking bonus. These bonuses can be incredibly powerful when enough units are involved. In general, the more units "ganged up" on the target unit, the better!

Combat Information Table



When one of your units is active, hover the cursor over an enemy unit to bring up the "Combat Information Table" and learn the probable outcome of any battle between the two units. This table shows your unit's modified combat strength on the left and

your enemy's on the right. The box at the center top of the screen tells you the likely outcome of the battle, and the bars in the center of the box tell you how much damage each side will take if combat occurs.

Initiating Melee Combat

The attacking unit initiates the melee by attempting to move into the enemy's hex. The attacker cannot engage in melee unless it can enter the defender's hex. (In other words, a Spearman cannot engage in melee combat against a Trireme since it can't enter that space except when embarked.)

To order an active unit to attack, right-click on the target. The active unit will initiate the combat.

Melee Combat Results

At the end of melee combat, one or both units may have sustained damage and lost "hit points." If a unit's hit points are reduced to 0, that unit is destroyed. If after melee combat the defending unit has been destroyed and the attacker survives, the attacking unit moves into the defender's hex, capturing any non-military units in that hex. If the defending unit survives,

it retains possession of its hex and any other units in the hex.

Most units use up all of their movement when attacking. Some however have the ability to move after combat – if they survive the battle and have movement points left to expend.

Any surviving units involved in the combat will receive “experience points” (XPs), which may be expended to give the unit promotions (see “Unit Promotions” on page 145).

Ranged Combat



Some units like Archers and Catapults and Triremes engage in Ranged Combat (that is, they shoot missiles at enemy units) when attacking rather than engaging in melee combat. Such units have two distinct advantages over melee units: first, they can attack enemy units that are not adjacent to them, and second, they do not take damage when they attack.

Ranged Combat Strength

Any unit that can engage in ranged combat has a Ranged Combat Strength statistic. This number is compared with the target’s Combat Strength to determine the results of the attack.

To see the potential effects of a ranged attack, with the attacking unit active hover the cursor over the potential target. The “Combat Information Table” will appear, showing you the losses (if any) the target will take from a ranged attack by the active unit.

Range

The unit’s “Range” stat determines the distance at which a unit can launch a ranged attack. A range of “2” means that the target can be in an adjacent tile or one tile distant. A range of “1” would mean that the target had to be adjacent to the attacker. (There are no units with a range of 1, by the way, so don’t scour the Civilopedia for ‘em.)

Line of Sight

Generally, a ranged unit must be able to “see” its target in order to be able to fire at it (although see the “Indirect Fire” promotion). A unit cannot see a target if a blocking object is between the two – a mountain or hill, for example, or a forest tile. A unit can always see into a tile, even if it contains blocking terrain, but it cannot see objects in tiles past the blocking terrain.

Note that units on hills and flying units can often see over blocking terrain.

Initiating Ranged Combat

With the ranged unit active, right-click on the target, and the attack will commence.

Ranged Combat Results

At the end of ranged combat, the target unit may have sustained no damage, some damage, or it may have been destroyed. Remember that the attacking unit will never suffer any damage during ranged combat (except possibly for air units). If the target is destroyed, the attacking unit does not automatically enter the now-vacant tile (which is what usually happens during melee combat), but you may of course send another unit into the empty space if you've got one with the movement points available.

The attacking and defending units may receive "experience points" (XPs) as a result of the combat. See "Unit Promotions" on page 145 for details.

Combat Bonuses

Units receive a variety of benefits during combat, some from the unit's location, others from its defensive posture, and others from a variety of special circumstances. Some bonuses apply only to an attacking unit, some only to a defending unit, and some might apply to both. The most common bonuses come from the terrain the unit occupies, and whether the defending unit is "fortified."

Terrain Bonuses

Defending units get important bonuses for occupying forest, jungle, or hill tiles. Attacking melee units are penalized if they attack an enemy across a river. Attacking units get bonuses when attacking from a hill.

See "Terrain" on page 28 for more details.

Forts

Once a civ has acquired the Engineering technology, workers can construct "forts" in friendly or neutral territory. Forts provide a hefty defensive bonus to units occupying them. Forts cannot be constructed in enemy territory. If a unit enters a fort in enemy territory, the fort is destroyed. Forts can be constructed atop resources.

Fortification

Many units have the ability to "fortify." This means that the unit "digs in" and creates defensive works in its current location. This gives the unit certain defensive bonuses, making it much tougher to kill. However, fortifications are strictly defensive: if the unit moves or attacks, the fortifications are destroyed.

While fortified, a unit will not activate. It will remain inactive until you manually activate it by clicking on the unit.

WHICH UNITS CAN FORTIFY

Most melee and ranged units can fortify. Non-military, mounted, naval, armored, and air units cannot fortify. These latter units can "Sleep," which means that they will remain inactive until attacked or you manually activate them, but they do not receive the defensive bonus.

FORTIFICATION BONUSES

The amount of the bonus depends upon the length of time the unit has been fortified. The unit receives a 25% defensive bonus on the first turn it is fortified and a 50% bonus during all subsequent turns.

THE “ALERT” ORDER

The “alert” order is similar to “fortify,” except that the unit will “wake up” when it sees a nearby enemy unit. The awakened unit retains the fortification bonus as long as it doesn't move or attack (so if you order it to go into alert mode again or to pass its turn it keeps the bonus).

Naval Combat



Like land units, there are military and non-military naval units. Work Boats and any “Embarked” Land Units are non-military units, and they are automatically captured and held for ransom when attacked by barbarians and destroyed when attacked by other civs or city-states.

All military naval units are ranged combat units. They may attack other naval units and any land units within range that they can see.

Naval combat is resolved like normal ranged combat. There are however certain late-era naval units that merit special attention: the Carrier, Missile Cruiser and the Submarines. They are discussed later, in the Air Combat section.

City Combat

Cities are big, important targets, and if fortified and defended by other units, can be quite difficult to capture. However, doing so can reap rich rewards – in fact, the only way to knock another civilization out of the game is to capture or destroy all of its cities. Do this to enough opponents and you can win a mighty domination victory (see “Victory and Defeat” on page 115).



City Combat Stats

CITY COMBAT STRENGTH

Cities have Combat Strength, just like units. The city's Combat Strength is based upon the city's size, its location (cities on hills are tougher), and whether its owner has constructed walls or other defensive works in the city.

The city's Strength represents its Combat Strength and Ranged Combat Strength. During the combat the city's hit points may decline due to enemy attacks, but its Combat and Ranged Combat strengths remain equal to its initial Strength — no matter how much damage the city has taken.

CITY HIT POINTS

A fully-healthy city has 20 hit points. As it takes damage, the city's hit points are reduced. If a city's hit points reach 0, an enemy unit can capture the city by entering its tile.

Attacking Cities with Ranged Units

To target a city with a ranged unit, move the unit so that the city falls within the unit's range and then right-click on the city. Depending upon the power behind the attack, the city's hit points may be reduced by the attack. (The attacking unit is not damaged, of course.) Note that a ranged attack cannot drop a city below 1 HP: the city must be captured by a melee unit.

Attacking Cities with Melee Combat

When a unit engages in melee combat with a city, the city may take damage to its hit points, and the melee unit may suffer damage as well. No matter how few hit points the city has remaining, it always defends itself at its full combat strength.

Garrison Units in Cities



A city's owner may "garrison" a military unit inside the city to bolster its defenses. A portion of the garrisoned unit's combat strength is added to the city's strength. The garrisoned unit will take no damage when the city is attacked; however, if the city is captured the garrisoned unit is destroyed.

A unit stationed in the city may attack surrounding enemy units, but if it does so the city loses its garrison bonus, and, if it's a melee attack, the unit may take damage during the combat as normal.

Cities Firing at Attackers

A city has a Ranged Combat Strength equal to its full Strength at the start of combat, and it has a range of 2. It may attack any one enemy unit within that range. Note that the city's Ranged Combat Strength doesn't decline as the city takes damage; it remains equal to the city's initial Strength until the city is captured.

Healing Damage to Cities

A city heals one point of damage every turn, even during combat. Therefore to capture a city the attacker must do more than one point of damage per turn (and usually a lot more than that).

Capturing Cities

When a city's hit points reach "0", an enemy unit may enter the city, regardless of any units already inside. When this occurs, the city is captured. The attacker usually has the option of destroying the city, making it a "puppet," or adding the city to his empire. Whichever he chooses to do, the civilization which loses the city has taken a huge blow. See "Cities" on page 67 for more details.

SPECIAL CITY CAPTURE RULES

Naval units, missiles and helicopters cannot capture a city – although they certainly can soften one up a good deal before the ground unit strolls right in. (And remember that ranged units cannot capture cities either.)

Siege Weapons



Certain ranged weapons are classified as “siege weapons” – Catapults, Ballista, Trebuchet, and so forth. These units get combat bonuses when attacking enemy cities. They are extremely vulnerable to melee combat, and should be accompanied by melee units to fend off enemy assault.

Most siege weapons have to be disassembled to move around the map. When they have reached their destination, they must expend a movement point to “set up.” They cannot attack until they have done so.

Siege weapons are *important*. It’s really difficult to capture a well-defended city without them!

Great Generals

Great Generals are “Great People” skilled in the art of warfare. They provide combat bonuses – offensive and defensive bonuses both — to any friendly units within one tile of their location. A Great General itself is a non-combat unit, so it may be stacked with a combat unit for protection. If an enemy unit ever enters the tile containing a Great General, the General is destroyed.

A Great General gives a combat bonus of 25% to units in the General’s tile and all friendly units within 2 tiles of the General.

Great Generals are created when your units have been in battle and can also be acquired when you unlock the “Warrior Code” social policy. See “Great People” on page 99 for more details.

Combat Damage

A fully healthy unit has 10 “hit points” (HPs). When a unit takes damage during combat it loses HPs, and if it reaches 0 HPs, it is destroyed.

A unit that has taken damage is weaker than a healthy unit, and it is closer to destruction. Wherever possible, it’s a good idea to “rotate out” damaged units from battle to allow them to heal up before reentering the fray. This, of course, is not always possible.

Effects of Damage

A damaged unit is less effective when attacking than a fully-healed unit. The more damaged the unit, the less its attack – melee or ranged – will damage an opponent. The actual formula is more complex than this, but as a general rule a unit’s damage output is reduced by half the percentage of HPs that it has lost. In other words, a unit that has lost 5 HPs (50%) has the amount of damage it does reduced by 25%, and the damage a unit that has lost 9 HPs (90%) inflicts, is reduced by 45%.

Healing Damage

To heal damage, a unit must remain inactive for a turn. The amount of damage that a unit heals depends upon the unit's location.

In a City: A unit heals 3 HPs per turn.

In Friendly Territory: 2 HPs per turn.

In Neutral or Enemy Territory: 1 HP per turn.

Note that certain promotions will accelerate a unit's healing rate.

Naval Units Healing Damage

Naval units cannot heal unless in Friendly territory, where they heal 2 HPs per turn.

The “Fortify Until Healed” Button

If a unit is damaged, the “Fortify Until Healed” button appears in its Action buttons. If you click on this button, the unit will fortify and remain in its present location until it is fully healed. See “Fortification” on page 58 for details of the defensive benefits of fortification.

Experience Points and Promotions

A unit that survives combat will gain “experience points” (XPs). Once the unit has acquired enough XPs, you may expend them to acquire “Promotions” for that unit. There are a large variety of promotions in Civ V. Each gives a unit special advantages in battle.

Acquiring XPs Through Combat

A unit gains XPs for surviving a round of combat. The unit doesn't have to win the combat or destroy the enemy to get the experience; it accrues each round that the unit lives through. The amount of XPs the unit gets depends upon the circumstances of the combat. Generally, units get more XPs for attacking than defending, and more for engaging in melee combat than for other types. Here are some numbers (see “Charts and Tables” on page 203 for a complete list):

An Attacking Melee Unit: 5 XPs

Defending Against a Melee Attack: 4 XPs

An Attacking Ranged Unit: 2 XPs

Being Attacked by a Ranged Unit: 2 XPs

Barbarian Limitations: Once a unit has gotten 30 XPs, it no longer gets any additional XPs for fighting Barbarians.

Other Methods of Getting XPs

A unit constructed in a city containing a Barracks or other military building will begin its life with XPs, the number depending upon the specific building. (Barracks and Armories each provide 15 XPs.) Also, certain social policies and other special effects may also provide XPs to units.

Expending XPs

When a unit has acquired enough XPs to purchase a promotion, the “Promote Unit” button will flash every time the unit is active. If you click on that button, a list of the promotions available to the unit is displayed. Click on a promotion to choose it. The XPs are expended and the unit acquires the promotion immediately.

Promotions List

There are dozens of promotions available in *Civilization V*. Some are available to all units, while others can be acquired only by certain unit types. Some promotions require that a unit have acquired other promotions before they become available.

If a promotion is available to a unit, it will be listed when you click on the “Promote Unit” button.

See the Civlopedia Section on Promotions, or “Unit Promotions” on page 145 for more details and for a full list of all promotions.

BARBARIANS AND RUINS

During the early portion of the game – say, the first 25 – 50 turns – much of your energy should be involved in exploring the world. During your exploration you will be encountering ancient ruins and barbarians. Ancient ruins are good, barbarians are not.

Ancient Ruins

Ancient Ruins are the remnants of even earlier civilizations which rose and fell long before you came on the scene. Ruins provide a random benefit to the civilization of the unit that first enters their tile. The ruin is destroyed when it is entered.

Ruins are cool. Find as many as you can before other civs get to them!



Ruin Benefits

FREE TECHNOLOGY

The ruin provides your civilization with a free technology.

Map

The ruin provides a map of the surrounding area (lifting the fog of war from a number of tiles).

WEAPONS UPGRADE

The unit which enters the tile is upgraded to a more advanced unit (a warrior might become a spearman, for example).

SURVIVORS

The ruin contains survivors from the earlier civilization. They move to one of your cities, increasing its population by one.

TREASURE

The ruin provides gold to your civilization.

CULTURE

The ruin provides culture to your civilization.

SETTLERS AND WORKERS

On easier difficulty levels, you can also receive free Settlers and Workers from ruins.

Barbarians

Barbarians are roving bands of villains who hate civilization and everything that goes with it. They attack your units and cities and pillage your improvements. They're just not very nice at all.

As your civilization grows the barbarians become much less menacing, but early in the game they can be a huge problem.

Barbarian Encampments



Barbarians come from "encampments", which may appear randomly in any tile that cannot be seen by a unit. Every few turns the encampment will create another barbarian unit which will make a bee-line for the nearest civilization and start causing trouble. The only way to stop this is to find the encampment and destroy it. Encampments are usually guarded by at least one unit, so they're not pushovers.

REWARD FOR DESTROYING AN ENCAMPMENT

A civilization will earn a gold reward for dispersing a barbarian encampment — in addition to the benefit of stopping it from spawning more barbarian units, which of course is the primary reward.

NEW ENCAMPMENTS

Barbarian encampments may spring up in any neutral space which cannot be seen by a civilization's city or unit. If you want to keep barbarian encampments from popping up around your civilization, expand your borders and place units on hills to keep as much terrain in sight as possible.

Barbarian Units

Barbarian encampments can create almost any kind of unit in the game – from Warriors and Spearmen to Cannon and Tanks. (They can build units equal to those that the most advanced civilization can create.)

Once created the barbarian units will either hang around their encampment or head off toward the nearest civilization or city-state and try to cause trouble. They'll attack units, destroy improvements and menace cities. If enough are involved, they can take down a poorly-defended city, which is then thoroughly pillaged. A pillaged city may lose gold, buildings and population.

This is why it's important to periodically sweep the countryside around your civilization, destroying encampments before they become a threat.

Barbarian Naval Units

Barbarian encampments on the coastline can create naval units (again, equal to those that can be created by the civilization with the most advanced tech). These units will menace your coastline, destroy naval improvements and attack hapless land units which stray too near the coastline. It's important to maintain a navy to keep them off your back, but the



best way to stop these attacks is to destroy the coastal encampments nearby.

Warning: If a barbarian ship comes across an embarked unit, it will destroy it!

Captured Civilians

If a barbarian unit comes upon a non-combat unit – Settler or Worker – the barbarians capture that unit. They will take it off to their nearest encampment, and the unit may be recovered by any player in the game. Should one of your civilians be captured in this manner, be sure to pursue and retrieve them before somebody else does!

Experience Points Limitations

When they fight barbarian units, your less well-trained units will gain experience points. However, any unit that has already acquired 30 XPs (or has exchanged that many for promotions) no longer gains XPs from fighting barbarians.

The End of Barbarians

Barbarians can remain in the game right up until the end. However, as more land is acquired there will be less available for the barbarian encampments to spawn in. If the entire world is civilized, the barbarians will be gone.

CITIES

Cities are vital to your civilization's success. They build units, buildings and wonders. They allow you to research new technologies and gather wealth. You cannot win without powerful, well-situated cities.

How to Build Cities

Cities are constructed by Settler units. If the Settler is in a location where a city can be constructed, the "Found City" action button will appear. Click on the button and the Settler will disappear, to be replaced by the new city.

Where to Construct Cities

Cities should be constructed in locations with plenty of food and production and with access to resources. It's often a good idea to build a city on a river or coastal hex. Cities constructed on hills gain a defensive bonus, making it harder for enemies to capture them.

The City Banner

The city banner appears on the Main Map. It provides a useful snapshot of the goings-on in the city.

The City Screen

Click on a city's banner to reach the city screen.



The city-screen allows you to "fine tune" your control over each city. It contains the following elements:

Your Citizens at Work

The center of the City Screen displays the map around your city. Your city's borders are displayed, and you can see which tiles your citizens are "working" (the tiles with the green citizen "coins" in them). Tiles that they *could* work are shown as black "coins".

"LOCKING" A CITIZEN TO A TILE

You can order a citizen to work a specific (unworked) tile by clicking on that tile. If an unemployed citizen is available, that citizen will go to work that tile. If not, the city will choose a



citizen from another tile to work the tile. The coin will turn green and have a lock symbol on it. This notes that the city will *always* work that tile, until you order it to cease by clicking on it again.

REMOVING A CITIZEN FROM WORK

If you click on a tile that is being worked (it has a green coin, either displaying a person or a lock), the citizen will cease to work that tile and become "Unemployed", appearing in the Unemployed Citizen List (see next page). You can then order that citizen to become a specialist in a building. You can click on an unemployed citizen in the list and he will return to work a tile on the map (if one is available to be worked).

City Output

This panel shows how much food, production, gold, science and culture the city is producing. It also shows how many turns until the city's border increases and how many until the city's population grows. Hover your cursor over an entry to get more details about it.

Civilization Output Summary

This line of data also appears on the Main Map. It shows:

- How much science your civilization is earning each turn from this city
- How much gold your civ possesses and how much it is earning
- Your civilization's happiness and your progress toward the next Golden Age
- Your civ's culture, and how much is needed to acquire another social policy
- Your civ's strategic resources

City Banner

The city banner displays the city's name; the city's Combat Strength is displayed under the name.

Note the arrows on the left and right edges of the banner. Click on these to close this city's City Screen and move to another. You can rotate through all of your cities in the game using these arrows.

Beneath the city banner is displayed any resources the city demands to go into We Love the King Day (see "We Love the King Day" on page 78).

City Allocation Focus

Click on the "+" next to "City Allocation Focus" to open this panel; click on the "-" to close it. This panel allows you to determine what, if anything, the city will concentrate its population on producing. These are the choices:

- **Default Focus:** The city allocates its citizens to produce a balanced amount of food, culture, science, gold, and so forth.
- **Food Focus:** The city concentrates on acquiring food, which means it will grow faster.

- **Production Focus:** The city concentrates on production, so that it will produce units, buildings and Wonders more rapidly.

...And so forth. "Avoid Growth" is useful if your civilization faces mounting unhappiness from population pressure.

Note that this will *not* override any "locked" tile you've set. If you want the city to take over control of that population, you'll have to unlock the tile by clicking on it.

Unemployed Citizens

This section is visible only if you have any unemployed citizens.

Click on the "+" next to "Unemployed Citizens" to open this panel; click on the "-" to close it.

Citizens in this list are neither specialists nor are they working the land around their cities: they're unemployed. An unemployed citizen produces just 1 production per turn, while still consuming the same amount of food as all other citizens. Click on an unemployed citizen and he will go to work any available tile outside of the city. Or you can click on an open Specialist slot in a building: the unemployed citizen will go to work as a Specialist in the building.

Wonders

This panel displays any Wonders the city has produced. Hover the cursor over a Wonder to learn more about it.

Buildings

Click on the "+" next to "Buildings" to open this panel; click on the "-" to close it.

This panel displays the buildings the city has produced. Again, hover your cursor over a building to get more details on it.

If the building has Specialist slots, you can click on an open slot to order a citizen to become a specialist in that building. If a building has specialists, click on them to remove them from the building. They'll go to either the Unemployed Citizens display or to an available tile to work.

Buy a Tile

This allows you to buy a tile when you can afford it. Click on this button and it will show you how much the next tile will cost. (Remember that the price goes up for each tile you purchase.) At the same time, the tiles available for purchase will have symbols appear on them and the cursor will change to a "purchase tile" cursor. Click on an available tile to purchase it, or click on "Cancel" to stop purchasing tiles.

Return to Map

This button closes the City Screen and returns you to the Main Map.

The Production Menu

This shows the item (unit, building, Wonder or project) currently under production as well as its game effects/stats and the number of turns required to complete construction. Click on "Change Production" to order the city to halt production on the current item and switch to another.

Purchase

Click on "Purchase" to order the city to purchase an item. The Purchase Menu will appear; click on an item to purchase it. Note that the city isn't purchasing the item it is presently working on; after the purchase the city will continue to construct the item (unless unable to do so). So for example, if a city is working on an archer and has 4 turns left and you purchase an archer, you'll get the purchased archer immediately, and the one that's under construction 4 turns later – unless of course you change production after purchasing the first archer.

Units in Cities

Combat Units

Only one combat unit may occupy a city at a time. That military unit is said to "Garrison" the city, and it adds a significant defensive bonus to the city. Additional combat units may move through the city, but they cannot end their turn there. (So if you build a combat unit in a city with a garrison, you have to move one of the two units out before you end your turn.)

Non-Combat Units

Only one non-combat unit (Worker, Settler, or Great Person) may occupy a city at a time. Others can move through, but they cannot end their move in the city. Thus, a city may have at most two units in it at the end of a turn: one combat unit and one non-combat unit.

Construction in Cities

You may construct buildings, wonders, or units in a city. Only one can be constructed at a time. When construction is complete the "CHOOSE PRODUCTION" alert message will appear; click on this to access the "City Build Menu" and choose the next item to construct.

The City Build Menu

The City Build Menu displays all of the units, buildings and wonders that you can construct in that city at that time. As your technology increases new items will appear and obsolete items will disappear. Each entry tells you how many turns it will take until construction is complete. If an entry is grayed-out, then you are currently unable to construct the item. Roll your cursor over the entry to see what you're missing.

Changing Construction

If you wish to change what a city is constructing, you may do so on the City Screen. The production already expended on the original item is not applied to the new item; however,

it remains "on the books" for a while and if you later order that city to resume construction on the original item, it may get the benefit of some or all of the earlier production. The longer the delay, the more production is lost.

Constructing Units

You can build any number of units in a city (as long as you have the required resources and the unit hasn't become obsolete). Since you can only have one combat and one non-combat unit in a city, you may have to move the newly-constructed unit out of the city immediately after it's built.

See "Units" on page 45 for more details

Constructing Buildings

Only one building of each kind may be constructed in a city: you cannot have duplicate buildings in the same city. Once you've constructed a building, that building will disappear from that city's City Build Menu. (You can still build the same building in another city, of course.)

See "Buildings" on page 75 for more details.

Constructing Wonders

There are two kinds of Wonders in the game: National Wonders and World Wonders. Each civilization may construct a single copy of a National Wonder (in other words, each civ may build one National Epic, but no civ may build two). Only one of each World Wonder may be constructed anywhere in the world: once one civ has constructed one, no other civ may do so. Wonders will disappear from the City Build Menu once you can no longer construct them. If another civ completes construction of a World Wonder while you are building it, you will receive a gold bonus to compensate you for your efforts, and you'll have to begin construction on something else.

See "Wonders" on page 110 for more details.

Working the Land

Cities thrive based upon the land around them. Their citizens "work" the land, harvesting food, wealth, production and science from the tiles. Citizens can work tiles that are within two tiles' distance from the city and that are within your civilization's borders. Only one city can work a single tile even if it's within two tiles' distance from more than one.

Assigning Citizens to Work the Land

As your city grows, it automatically assigns its citizens to work the lands around it. It seeks to provide a balanced amount of food, production and wealth. You may order a city's citizens to work other tiles – for example, if you want a certain city to concentrate on generating wealth or production. See the “The City Screen” on page 67.



Improving the Land

While certain tiles naturally provide good amounts of food, wealth, and so forth, many can be “improved” to provide even more, thus increasing a city's growth, wealth, productivity, or science. You need to build “Workers” to improve the lands. Once you have a Worker, you can order it to construct improvements – such as farms, mines, schools and so forth – that will make the land around your cities far more productive.

See “Workers and Improvements” on page 86 for more details.

Specialists

When a city is first created, all of its citizens (population) will work the tiles around the city, generating food, production, gold, etc. Later on, you can construct certain buildings which allow you to reassign some of the citizens to work in the building as specialists.

For example, the Library has 2 “slots” for “scientist” specialists. Once you've constructed a Library in a city, you can assign 1 or 2 citizens to work in that Library as scientists. (Note that not all buildings create specialists; see the Buildings section in the Civilopedia.)

There are four different classes of specialists. The type a citizen becomes depends upon the type of building he is assigned to work in.

Artist

An artist specialist produces culture and generates points toward a Great Artist (see “Great Artist” on page 100). Artists are assigned to culture-related buildings like Temples and Museums.

Engineer

An engineer specialist produces production (hammers) and generates points toward a Great Engineer. Engineers are assigned to production-related buildings like Workshops and Factories.

Merchant

A merchant specialist produces gold and generates points toward a Great Merchant. Merchants are assigned to wealth-related buildings like Markets and Banks.

Scientist

A scientist specialist generates science (beakers) and generates points toward a Great Scientist. Scientists are assigned to science-related buildings like Libraries and Universities.

Assigning Specialists

To assign a specialist, go to the City Screen. Click on the "specialist slot" in the building where you want to assign the specialist. A citizen will be removed from working a tile and assigned to work in the building. If you click on the slot again, the citizen will be removed from the building and reassigned to work in the fields.

See "The City Screen" on page 67 for more details on assigning citizens to work tiles and as specialists.

Effects of Assigning Specialists Upon City Output

Remember that a citizen working in a tile is generating something for the city – it may be food, production, gold, culture, or science. Once that citizen is assigned as a specialist, he or she will not be working the tile, and whatever he or she was producing will be lost. Therefore it's a good idea to check your city's food, gold and production generation after creating specialists.

Unemployed Citizens

If a Citizen is not assigned to work in the fields and is not a specialist, that Citizen is "unemployed." It still provides 1 production to the city.

City Combat

Cities may be attacked and captured by enemy units. Each city has a "Combat Strength" stat which is determined by the city's location, its size, whether any military units are "garrisoned" in that city, and whether defensive buildings such as walls have been constructed in the city. The higher the city's defensive value, the harder it is to capture the city. Unless the city is extremely weak or the attacking unit is extremely strong, it will take multiple units multiple turns to capture a city.

See "Combat" on page 54 for details on warfare in general.

Attacking a City

To attack an enemy city, order your melee unit to enter the city's hex. A round of combat will ensue, and both the unit and the city may take damage. If your unit's hit points are reduced to zero, it is destroyed. If the city's hit points are reduced to zero, your unit captures the city.

Attacking with Ranged Units

Although you can attack a city and wear it down with ranged units, you cannot capture the city with a ranged unit; you must move a melee unit into the city to take it. Similarly, water and air units cannot capture a city, though they can wear its defenses down to nothing.

See "Air Combat" on page 119 and "Naval Combat" on page 59 for more info.

Defending a City

There are a number of things you can do to improve a city's defenses. You may "garrison" a strong unit in the city. A melee unit will greatly increase the city's defensive strength, while a

ranged unit will fire at nearby enemy units.

You may also construct Walls and Castles that will improve the city's strength. A city on a hill gets a defensive bonus as well.

No matter how powerful a city is, however, it is very important to have units outside the city supporting it, to injure the attacking units and to stop them from surrounding the city and getting huge flanking bonuses against it. See "City Combat" on page 59 for more details.

Conquering a City

When your unit enters an enemy city, you have three choices: you can destroy the city, you can annex it and make it part of your empire, or you can make it into a puppet state. Each has its own benefits and costs.

Destroying the City

If you destroy the city, it's gone. For good. All of its buildings, wonders, and citizens are no more. We hope you're proud of yourself, you big bully! While there are some good reasons for destroying a city, mostly to do with your population's happiness (see below), this extreme behavior does have significant diplomatic consequences – i.e., other civs and city-states may be less likely to ally with you if they think you're a bloodthirsty maniac. You can destroy the city immediately upon capturing it or at any point after that.

INDESTRUCTIBLE CITIES

You can't destroy a city that you founded. (Some other civ can, but not you.) Also, you cannot destroy a city-state or another civ's capital city.

Annexing the City

If you annex the city, you make it a part of your empire. You have total control over the city, just as if you had constructed the city yourself. The one downside to annexation is that doing so makes your citizens very unhappy, and you will be required to construct happiness-related buildings like courthouses and coliseums or connect up to luxury resources to counteract their extreme displeasure. Annexing too many cities too rapidly can bring your empire to a grinding halt.

See "Happiness" on page 107 for more details.

Making the City a Puppet

If you make the conquered city a puppet, you gain the benefit of the city's research and its output of wealth, while taking a much smaller hit to your citizens' happiness. However, you do not control the city's production. It makes the buildings it chooses and it creates no new units or wonders at all. Thus you'll have to provide the military force for its defense, and if you want to make the city more efficient, you'll have to order your civ's Workers to improve its land.

You can annex a puppet city at any time. To do so, click on the city's banner.

BUILDINGS

A city is more than a bunch of homes. It contains schools and libraries, markets and granaries, banks and barracks. Buildings represent the improvements and upgrades that you make in a city. Buildings can increase the city's rate of growth, can speed production, can increase the science of a city, can improve its defenses, and can do lots of other good things as well. See "Building List" on page 162 or the Civilopedia Building section for more details.

A city that has no buildings is pretty weak and primitive and will probably remain fairly small, while a city with a lot of buildings can indeed grow to dominate the world.

How to Construct Buildings

When a city is ready to construct something, the city's "Production Menu" will appear. If a building is available to be constructed, it will appear on this menu. Click on the building to order the city to begin construction.

Changing Construction and Purchasing Buildings

You can change a city's construction orders on the City Screen. You can expend gold to purchase a building on this screen as well. See "The City Screen" on page 67 for details.

Building Prerequisites

With the single exception of the monument, which has no prerequisites and is available to build at the start of the game, you need knowledge of a specific technology to construct any building. For example, you must learn bronze working before you can build a barracks.

Some buildings have resource prerequisites as well – for instance a city must have an improved source of horses or ivory nearby to construct a circus.

Also, some buildings have building prerequisites. You can't build a temple in a city unless you've already constructed a monument there.

Specialists and Buildings

Certain buildings allow you to create "specialists" out of your citizens to work those buildings. Specialists improve the output of the building, and they also increase the city's output of Great People. See "Specialists" on page 72 and "Great People" on page 99 for details.

Building Maintenance

There's one downside to buildings: most of them cost gold to maintain. The price depends upon the building in question, and can range from 1 to 10 per turn. The gold is deducted from your treasury each turn. See "Gold" on page 103 for more details on maintenance.

The Palace

The palace is a special building. Part building, part Wonder, the palace automatically appears in the first city you build, which makes that city the capital of your empire. If your capital city is captured, your palace will automatically be rebuilt in another city, making that city your new capital. If you subsequently retake your original capital, the palace will move back to its original location.

The palace provides a small amount of production, science, gold, and culture to your civilization. If you connect other cities to the capital by road or harbor, you will create trade routes which generate additional income.

Captured Cities

If a city is captured, its World Wonders are captured as well. A city's National Wonders are destroyed when the city is captured.

The city's culture and military buildings (temples, barracks, etc.) are always destroyed when the city is taken. All other buildings have a 66% chance of being captured intact.

FOOD AND CITY GROWTH

Plentiful food is the single most important factor determining the rise of human civilization. While humans had to spend virtually every waking moment hunting and gathering food for themselves and their families or tribe, they had little time or energy for other pursuits – making cave paintings, for instance, creating a written language, or discovering moons. Once surplus food is available, all else is possible.

Cities and Food

A city requires 2 food per citizen (another term for “population”) per turn to avoid starvation. A city acquires food (as well as production and gold) by assigning its citizens to “work” the land around the city. The city can work any tile within two spaces of the city that is also within the civilization’s borders, provided as well that it is not being worked by another city.

Left to its own devices, the city will assign as many citizens as needed to acquire its food. If not enough is available, the city will starve, losing citizens until it can support itself.

Manually Assigning Citizens to Work the Land

You can manually assign a city’s citizens to work specific tiles, for example, demanding that the city concentrate its efforts on growth or on production or gold. See “The City Screen” on page 67 for more details.

Getting More Food

Certain tiles provide more food than others, and cities near to one or more of these tiles will grow faster. In addition, workers can “improve” many tiles with farms, increasing their output of food.

Best Food Tiles

BONUS RESOURCES

Tiles with “bonus” resources provide a lot of food once a worker constructs the appropriate improvement on the resource. These include bananas, cattle, deer, fish, and wheat. See “Workers and Improvements” on page 86 and “Resources” on page 36 for more details.

OASIS TILES

Oases provide a lot of food, particularly when compared with the desert in which they’re usually found.

FLOOD PLAINS

Flood plains provide a lot of food too.

GRASSLAND AND JUNGLE

These tiles also provide a good amount of food.



Improvements

Workers can construct farms on most tiles to improve their food output.

Buildings, Wonders and Social Policies

Certain buildings, wonders and social policies will affect the amount of food a city produces or how much it needs in its “bucket” to grow (see below).

Maritime City-States

If you befriend a maritime city-state, it will provide food to all of your cities, with your capital getting the largest portion of the food.

We Love the King Day

If a city goes into “We Love the King Day” (see “Resources” on page 36) its surplus food input increases by 25%. (If no surplus, no benefit.)

City Unhappiness

If your civilization is unhappy, then the city will produce *less* food. The city will produce enough food to feed its citizens, but the amount of excess food it produces is decreased by 67%.

City Growth

Each turn, a city's citizens gather a certain amount of food from the land around it and from various other sources as described above. The city's citizens have first call on that food, and they consume 2 food for each population point (so a city of population 7 consumes 14 food each turn). Any food left over is put into the poetically-named "City Growth Bucket."

The City Growth "Bucket"

The city growth bucket contains all of the excess food produced by a city each turn. When the quantity of food reaches a specific amount, the city's population (citizens) will increase by 1; then the city growth bucket is emptied and the process begins all over again. The amount of food needed for population growth increases *significantly* as the city gets bigger. The City Info Box in the upper left-hand corner of the City Screen tells you how many turns until the city grows; and the "Food" entry in that box tells you how much food the city is currently producing each turn. Hover your cursor over the "Food" entry to see exactly how much food you need to fill the City Growth Bucket.

Settlers and Food Production

Settlers can only be constructed in cities of size 2 or larger. During construction, Settlers consume a city's production *and* all of the city's excess food intake. As long as the Settler is in production, the city will not grow or add food to its growth bucket. (Note that Settlers don't subtract food from the bucket; they consume excess food being produced, stopping more food from going into that bucket.)

CULTURE

Culture is a measurement of your civilization's commitment to and appreciation of the arts and humanities – everything from cave paintings and Tiki heads to “Hamlet,” or Beethoven's Ninth Symphony to Lady Gaga's latest video. In the game culture has two main effects: it increases the size of your cities' territories (and therefore your overall borders) and it allows you to purchase new “Social Policies.”

Most importantly, if you acquire enough culture you can win a “cultural victory.”

Getting Culture

Your civilization acquires culture in a variety of ways:

- **Your Palace:** Your palace (created when you build your first city) produces 2 culture points per turn.
- **Ancient Ruins:** An ancient ruin might give you a big dose of culture.
- **Buildings:** Certain buildings provide culture. The monument and temple are two early examples.
- **Specialists:** Specialists, particularly artists, generate culture.
- **Wonders:** Some wonders churn out culture. The Hermitage, Heroic Epic and National Epics are three national wonders that give you culture, and there are plenty more to discover.
- **Social Policies:** Certain social policies will increase your culture output. The “Patronage” branch has a number of policies targeted at culture.
- **Great Artist:** A Great Artist can construct a “Landmark” improvement in a tile. If your city works that tile, it will gain a lot of culture.
- **City-States:** Some city-states give you culture if your relations are friendly.

Expanding Territory

As a city gains culture, it will acquire additional tiles in the surrounding unclaimed territory. The faster it gains culture, the faster its territory will grow. Each city acquires territory depending upon its own cultural output. When it reaches a certain level, it will “claim” a new tile (if any are available).

Check out the City Info Box on the City Screen to see how much culture a city is producing each turn and how long until the city grabs another tile. The amount of culture required to get a new tile increases as the city's territory grows.

Note that you can also expend gold to “purchase” tiles; this is entirely independent of the city's own acquisition based upon its culture.

Acquiring Social Policies

You acquire social policies based upon the total amount of culture produced by all of your cities. Check out the Status Bar at the top of the Main Screen to see how much total culture your civ has accumulated, how much culture the civ is producing each turn, and how much is required before getting a new social policy.



When you have accumulated enough culture, you can go to the Social Policies Screen and buy a new policy. (See “Social Policies” on page 93 for details.) Each time you purchase a new social policy the price of the next one increases.

Cultural Victory

Remember that you can achieve victory by acquiring enough social policies and then constructing the “Utopia Project.” See “Victory and Defeat” on page 115 for details.

TECHNOLOGY

Technology is one of the driving forces behind civilization. It was advances in the technologies of agriculture and fishing that allowed cities to grow and thrive. It was advances in weaponry and masonry that allowed some cities to drive off the jealous barbarians who sought to steal their food and plunder their wealth. It was advances in medicine and sanitation that fought off the other great threat to civilization – disease.

Advancing technology makes a civilization stronger, bigger, smarter, and a much tougher opponent. It is critically important for a civilization to keep up technologically with its neighbors. Everything else being more or less equal, it is possible for a backwards civilization to overcome a more advanced neighbor, but it's pretty difficult to think of many examples of such occurring in history.

Technology and Beakers



In *Civilization V*, each technology you acquire gives your civilization access to some advanced unit, building, resource or wonder, or gives you some other tangible benefit. Each new tech makes your civilization that much more powerful.

You acquire technology by accumulating "beakers," which represent the amount of science your civilization possesses. Every turn your civilization gets a number of beakers added to its science pool. Each technology costs a certain number of beakers to learn; when you've accumulated enough beakers, you acquire the technology. When you get the new tech your beaker pool is depleted and you start accumulating all over

again, saving up for the next tech.

Where Do Beakers Come From?

Beakers come from your citizens (the population of your cities). Each turn you get a base number of beakers equal to the combined population of all of your cities. The larger your cities, the more beakers you generate.

In addition to the beakers generated by your base population, you get 3 beakers from your palace. (Once you build your first city you'll generate 4 beakers each turn: 1 from your single citizen and 3 from the palace). You can earn additional beakers by constructing certain buildings or wonders, and by adopting certain social policies.

Increasing Beakers (and Speeding Up Research)

Here are some ways you can speed up your research (or your acquisition of technology).

ANCIENT RUINS

Some ancient ruins will give you new technology. This is not guaranteed, but it's another good reason to search them out and claim them before anybody else does.

TRADE

You can enter into "Research Agreements" with other civilizations once you have learned the Writing technology. Under such agreements, each civ pays 150 gold and in return gets a 15% boost to its research for the duration of the agreement.

BUILDINGS

You can construct a number of buildings which will increase your acquisition of beakers. The Library increases each citizen's output of beakers by half and it allows two scientist specialists to be assigned (see "Specialists" on page 72 for more information). The University will do much the same. See the Building section of the Civlopedia and "Building List" on page 162 for details on these and other knowledge-producing buildings.

WONDERS

A number of wonders will greatly enhance your civ's technology. The National College national wonder will increase your civ's beaker output by 50%. The Great Library immediately grants your civ one new technology. See the Wonder section of the Civlopedia for more details.

GREAT SCIENTIST

A Great Scientist can earn you an immediate free tech, or the unit can be expended to construct an Academy improvement, which provides 5 beakers/turn when the tile is worked. See "Great People" on page 99 for more details.

THE RATIONALISM BRANCH OF SOCIAL POLICIES

The Rationalism branch of social policies is full of policies which can increase your research. This branch becomes available in the Renaissance era. See "Social Policies" on page 93 for details.

Choosing a Technology to Study

When you have constructed your first city, the "Choose Research" menu appears and you must select which technology you wish to study. Eventually you'll acquire enough beakers and you'll learn that tech, and the "Choose Research" menu will reappear and you'll have to decide on the next tech. There are over 70 techs to study, and if you get them all you can start on "Future Techs" which increase your game score.



The Choose Research Menu

When you need to pick a new technology, the Choose Research menu appears on the left edge of the screen. At the top it displays the technology you've just finished learning (it displays "Agriculture" the first time it appears). Below that is the "Open Technology Tree" button (more about that later), and beneath that is a list of the technologies available to you at that time. Each technology displays the number of turns it will take you to get that tech, as well as icons representing the various buildings, improvements, wonders and so forth that the technology allows (or "unlocks"). You can hover your mouse atop an icon or technology to learn even more info about it.

Click on a tech to choose to research that tech. The Choose Research menu will disappear, and a large icon will appear in the upper left-hand corner of the screen, showing you which tech you are currently researching and how long until completion.

Changing Research

You can change which tech you are researching at any time. To do so, click on the tech icon in the upper left hand corner of the screen. The Choose Research menu will reappear, and you can choose any of the techs it lists as available. You can continue to research the original tech later at the point you stopped; the previous research is not lost.

Which Technologies are Available

At the start of the game, there are just a few technologies available to research – generally animal husbandry, archery, pottery, and mining. All of the other technologies in the game have one or more prerequisite techs that must be learned before they can be studied. When you've learned the prerequisite techs, the newly-available tech will appear on the Choose Research menu.



For example, the techs of sailing, calendar, and writing require knowledge of pottery before they can be learned. So if you study pottery, that tech will be removed from the Choose Research menu (because you already know it) and sailing, calendar and writing will be added. Some technologies require knowledge of 2 or 3 prerequisite technologies, not just one. Those techs will not appear until you've learned all of the required techs.

The Mighty Technology Tree

To see how all of this works in the game, check out the amazing Technology Tree. It displays all of the technologies and shows how they are intertwined. You can click on a tech to order your civilization to research it – if your civ doesn't know the prerequisite techs it will research them as well. The tech tree will plot the quickest route to the requested tech, and you will research the necessary precursors in the order it displays.

The Tech Tree can be reached from the Choose Research menu, or by pressing the F5 key.

The Technology Victory

Once you have learned enough technology, you can construct a space ship and send a colony off to Alpha Centauri. If you do this before any other civilization achieves any other kind of victory, you win a technology victory.

See “Victory and Defeat” on page 115 for more details about the various ways to achieve victory in *Civilization V*.

WORKERS AND IMPROVEMENTS

Workers represent the men and women who build your empire. They clear the jungles and build the farms which feed your cities. They dig the mines that provide you with precious gold and mighty iron. They lay the roads which connect your cities. Although they are not military units, workers are *important*.

Improvements increase the production, gold, and/or food output of tiles. They also provide access to the special bonuses provided by certain resources. If you do not improve your land, your civilization will almost certainly be overwhelmed by others which have.

Creating Workers

Workers are built in cities, just like other units.

Workers in Combat

Workers are non-military units. They are captured when an enemy unit enters their tile, and they can be damaged by ranged attacks as well (they heal like other units, but they do not gain experience or receive promotions). Workers cannot attack or damage any other unit. It's a really good idea to stack a military unit with a worker if it's in dangerous territory.

The Worker Action Panel

When an active worker is in a location where it can do something – say construct a road, build an improvement, or clear land – the Worker Action Panel is visible. This panel displays all actions available to the worker at that location. Click on an action to order the worker to start building. Worker actions take time; hover the cursor over the action to see how long it will take the worker to complete that action.

Clearing Land

Once their civilization has learned the mining technology, workers can remove forests from tiles. Once they have learned bronze working, they can remove jungle. And once they have learned masonry, workers can drain marshes. Once these features are removed, they are gone forever.

Time to Clear Land

Remove Forest: 3 Turns

Remove Jungle: 6 Turns

Drain Marsh: 5 Turns

Building Roads

Workers can construct roads once their civilization has acquired the wheel technology. Roads can be constructed in friendly, neutral or enemy territory. They can be built in any terrain and across any features, except for mountains, natural wonders and ice (and of course they can't be built in water tiles). Roads can be constructed in tiles with resources and/or improvements. See "Road and Railroads" on page 52 for more details.

Time to Construct a Road

It takes a worker 3 turns to construct a road in any tile.

Roads and Trade Routes

If there is a road between your capital and another of your cities, those cities have a "trade route." Trade routes give your civilization gold bonuses each turn, the amount depending upon the size of the cities involved. (Harbors can also create trade routes between coastal cities.) See "Trade Routes" on page 103 for details.

Constructing Improvements

Once a civilization has learned the appropriate technology, its workers can construct improvements.

Where Improvements Can Be Constructed

Improvements can be built only in appropriate locations. (Farms may not be built on ice, for example, and mines can't be built atop cattle resources.) The Worker Action Panel will only display improvements that your civilization has the technology for and that are appropriate for the tile the active worker occupies.

Generally, farms can be constructed in any tile that doesn't contain a resource. If the tile does contain a resource, only the appropriate improvement can be constructed.

Duration to Construct

Each improvement type takes a certain amount of time. The times listed below are for standard games; it will take longer to construct improvements in marathon games, and shorter in games started in later eras.

How Much Time is Left?

Hover your cursor over a worker to see how much time is remaining on the current construction job.

Leaving and Resuming an Improvement Project

If you leave a project in the middle and then resume the same project later on, the time already spent will be subtracted from the amount of time it takes to complete the project.

If you change projects, however, all progress from the previous project will be lost.

Farm Improvement

The farm is the earliest and most commonly-constructed improvement. All civilizations begin play knowing how to farm. Farm improvements can be constructed in most tiles, and atop a number of resources.

Technology Required: Agriculture (acquired at the start of the game)

May Be Constructed: Anywhere but ice. Farms increase the tile's output by 1 food.

Duration of Construction: 6 Turns

Forest: Farms may be constructed in forested tiles once you learn the mining tech. The forest is removed when the farm is built.

Total Construction Time: 10 Turns

Jungle: Farms may be constructed in jungle tiles once you learn the bronze working tech. The jungle is removed when the farm is built.

Total Construction Time: 13 Turns

Marsh: Farms may be constructed in marsh tiles when you learn the masonry tech. The marsh is removed when the farm is constructed.

Total Construction Time: 12 Turns

Resources Accessed: Farms can access the wheat resource, increasing the tile's output by 1 food and 1 gold.

Mine Improvement

The mine improvement is learned when your civilization acquires the mining tech. It can be used to increase the production output of many tiles, and it also unlocks a variety of resources. The mine is as important as farming.

Technology Required: Mining

May be Constructed: Mines can only be built on Hills or Resource tiles. Mines increase a tile's output by 1 production.

Duration of Construction: 6 Turns

Forest: Mines may be constructed in forested tiles. The forest is removed when the mine is built.

Total Construction Time: 10 Turns.

Jungle: Mines may be constructed in jungle tiles once you learn the bronze working tech. The jungle is removed when the mine is built.

Total Construction Time: 13 Turns

Marsh: Mines may be constructed in marsh tiles when you learn the masonry tech. The marsh is removed when the mine is constructed.

Total Construction Time: 12 Turns

Resources Accessed: Mines unlock the iron, coal, aluminum, uranium, gems, gold and silver resources. See "Resources" on page 36 for details.

The Special Fort Improvement

The fort improvement is a special improvement that is constructed by workers and provides protection for military units in friendly territory. The fort may only be built in a friendly or neutral tile. It may be constructed atop any resource, but constructing a fort atop another improvement will destroy the previous improvement. The fort is destroyed when a non-friendly unit enters the space or if the space becomes owned by another civilization.

Defensive Bonus of the Fort: 50%

CAMP

Technology Required: Trapping

Construction Time: 6 Turns

Resources Accessed: Ivory, Fur, Deer

LUMBERMILL

Lumbermills increase a forested tile's output by 1 production, without destroying the forest.

Technology Required: Engineering

Construction Time: 6 Turns

May Be Constructed On: Forests.

OIL WELL

Technology Required: Biology

Construction Time: 8 Turns

Resource Accessed: Oil (on land; offshore platform required for oil found at sea)

PASTURE

Technology Required: Animal Husbandry

Construction Time: 7 Turns

Resources Accessed: Horse, Cattle, Sheep

PLANTATION

Technology Required: Calendar

Construction Time: 5 Turns

Resources Accessed: Bananas, Dye, Silk, Spices, Sugar, Cotton, Wine, Incense

QUARRY

Technology Required: Masonry

Construction Time: 7 Turns

Resource Accessed: Marble

Trading Post

The trading post increases output of a tile by 1 gold. It doesn't access a resource.

Technology Required: Trapping

Construction Time: 8 Turns

May Be Constructed On: Any land tile but ice.

Pillaging Roads and Improvements

Enemy units can “pillage” roads and improvements, rendering them temporarily useless – no resource, no movement bonus, and so forth. It is as if the worker never built the road or made the improvement.

A unit may even pillage its own civilization's improvement (typically to deny it to another civ who is about to capture the first civilization's city).

A unit that pillages an improvement may gain a gold bonus.

Repairing Roads and Improvements

A worker may repair a pillaged road or improvement. It takes a worker 3 turns to repair any road or improvement.

Fishing Boats and Oil Platforms

Water improvements (see “Work Boats” on page 92) are totally destroyed when pillaged. They cannot be repaired; they must be rebuilt entirely (which consumes another Work Boat). Guard your water improvements!

Great People Improvements

Great People can construct special improvements. See “Great People” on page 99 for details.

WORKER ACTION LIST



Build Road: Build a road improvement on the current tile. Roads can be built on any passable land tile.



Build Railroad: Build a railroad improvement on the current tile. Railroads can be built on any passable land tile.



Build Farm: Construct a Farm improvement on the current tile. Farms increase the Food production of the tile. Some resources like Wheat require Farms to be built on them in order to be used.



Build Mine: Construct a Mine improvement on the current tile, improving its production. Some resources like Iron or Gems require Mines in order to be used.



Build Trading Post: Construct a Trading Post improvement on the current tile. This improves the Gold output of the tile.



Build Lumbermill: Build a lumbermill on the current tile, which must be covered with a Forest feature. Lumbermills provide extra Production.



Build Pasture: Construct a Pasture on the selected tile. Resources like Horses and Cattle require Pastures.



Build Camp: Construct a Camp on the selected tile, allowing the use of resources like Furs and Deer.



Build Plantation: Construct a Plantation on the current tile. Plantations are needed in order to use many of the Luxury Resources.



Build Quarry: Construct a Quarry on the current tile. Marble resources require Quarries to be built on them in order to be used.



Build Oil Well: Construct an oil well on the current land tile. This allows for the use of the Oil resource.



Remove Jungle: Order the Worker to clear the selected tile of any Jungle Feature. This removes any benefits provided by the Jungle.



Remove Forest: Order the Worker to clear the selected tile of any Forest Feature. This removes any benefits provided by the Forest.



Remove Marsh: Order the Worker to clear the selected tile of any Marsh Feature.



Remove Route: Order the Worker to clear the selected tile of any roads or railroads.



Repair: Repair any damage caused by unit pillaging. The improvement and any resources on this tile cannot be utilized until it is repaired.



Automate Build: Automate all the worker's actions. This unit will continue working until you manually cancel.

WORK BOATS

Work boats are special worker units built in coastal cities. They can create fishing boats and offshore platform improvements in water. Unlike land workers, Work Boats are consumed when they create an improvement.



Build Offshore Platform: Order the unit to create an offshore drilling platform over an oil resource in the ocean. The unit is consumed in the process.



Fishing Boats: The work boat will construct a fishing boat over the coastal resource, consuming it in the process.

SOCIAL POLICIES

Social policies represent the way you choose to govern your people. Will you be an authoritarian ruler, sacrificing a little freedom for discipline and increased productivity? Will you organize your civilization to have a strong military, or will you concentrate your efforts on expanding culture and borders? Do you want to set up your civ as a monarchy or democracy? There are 10 different branches to choose from, each headlining a specific aspect of government.

Social policies have concrete effects for gameplay. Some increase your cities' production, while others generate more wealth, and still others help create a more effective military. There are no right or wrong policy choices in the game, and one policy may be better for a given circumstance than other, or better suit your personal playing style. Try them out and see.



Policies are arranged into 10 separate branches, each of which (once adopted) unlock a tree of five different policies. Unlocking these individual policies will give you the benefits described, and can even lead to a Cultural Victory.

Acquiring Social Policies

You can choose to adopt and unlock a social policy once you have gained enough culture points, based upon the difficulty level of your game. For example, on the Settler difficulty level, the first policy unlocks at 15 culture points and on Prince, it unlocks with 25 culture points, with subsequent levels costing a little bit more. During play, the cost of each Policy increases with the more you adopt. To see how much culture you currently have and when the next policy becomes available, hover your mouse over the Culture icon on the Status Bar. You can read more about accruing culture in the Culture section.

Once you have enough culture, a notification will alert you on your turn. Click on the Social Policies icon in the top right corner (located next to your advisors) to bring up the Social Poli-

cies Pane. If you don't wish to select a Policy that turn, you may right-click the notification to dismiss it. (The game will not remind you again though, so this can be risky.) Here you can choose to adopt a new branch or unlock a new policy within an unlocked branch. To view all the available policies (and not just the ones you've unlocked), click on the Advanced View toggle at the bottom of the pane.

When you have acquired the requisite amount of culture, click on the "Adopt" button to open up the chosen branch for exploration – you must first spend points to adopt the branch before unlocking any of the individual policies. Each branch adoption will give you some benefit immediately, with the individual policies within each providing more bonuses of the same nature.

Some branches (like Autocracy and Freedom) may not be unlocked and active at the same time, and many branches only become available once a later era has been reached.

Social Policy Branches

There are 10 different policy branches to explore, each describing a different mode of government. Each branch provides an immediate bonus when adopted, and each individual policy provides another like bonus once unlocked.

Tradition

Tradition is a branch best chosen by small empires, as many of the policies within directly improve the Capital City. Adopting Tradition will immediately provide a bonus of +2 Food per turn generated in the Capital. Tradition is available at the start of the game.

Liberty

Liberty is well-suited for civs who wish to rapidly expand their influence over others: the speed of production of all Settlers in the civ is increased by 50%. Liberty is available at the start of the game, and may not be active at the same time as Autocracy.

Honor

Choosing the policy of Honor improves the effectiveness of a civ's armies and militaries. Upon adoption, this policy will grant all units a 25% combat bonus against Barbarians, and a handy notification will be provided each time a new Barbarian Encampment spawns inside revealed territory. Honor is also available at the start of the game.

Piety

Piety increases the Happiness and Culture of the adopting civ, immediately granting a bonus to the civ's Happiness total by 2 points. Piety becomes available once the Classical Era





is reached, and it may not be active at the same time as Rationalism. For players looking to achieve a Cultural Victory, this is a nice place to start, as the branch provides boosts to culture and even free policies.

Patronage

Patronage is a useful policy for those wanting to enhance their friendship status with city-states. Upon adoption, Influence with City-States degrades 50% slower than normal. Patronage becomes available upon entering the Medieval Era.

Commerce

Commerce provides bonuses to naval-minded civs, as well as those focused on producing large quantities of Gold. This branch boost Gold output in the Capital City by 25%. Commerce also unlocks upon entering the Medieval Era.

Rationalism

The branch of Rationalism improves the civ's ability to use and generate Science, becoming available upon entering the Renaissance Era. Adopting this branch immediately causes the civ to enter a 5-turn Golden Age. Rationalism may not be active at the same time as Piety.

Freedom

Freedom provides bonuses for Culture and Specialist production. With this branch, specialist populations in cities will produce only half the amount of Unhappiness that they normally would. Freedom becomes available upon entering the Renaissance Era, and cannot be active at the same time as Autocracy.

Order

Players interested in creating massive, sprawling civs should turn to Order, as the strength of the empire is determined by the total number of cities it contains. Order will increase the production rate of all buildings by 25%, and becomes available for exploration upon entering the Industrial Era.

Autocracy

This branch is well suited for those wishing nothing more than to crush their foes under the weight of their iron-plated boots. It is ideal for players who seek a Domination Victory. Autocracy reduces the Unit Maintenance fee by 33%, allowing the civ to field an even larger army at the same cost. This policy unlocks upon entering the Industrial Era, and cannot be active at the same time as Liberty or Freedom.

Cultural Victory

If you fully explore five different branches on the Social Policies pane, you unlock the "Utopia Project." Building this project will net you a Cultural Victory! For more information, see "Victory and Defeat" on page 115.

CITY-STATES

City-States are the smaller political entities in *Civilization V*. They cannot win a game – they're not competing against you – but they can greatly assist or impede your progress towards victory. You can befriend City-States and gain a number of important benefits, you can ignore them and concentrate on bigger and more important foes, or you can conquer them and take their stuff. It's up to you.

Types of City-States

There are three different “flavors” of city-states. Each can provide you with different benefits if you befriend or ally with them.

Cultured

A cultured city-state can help you improve your culture.

Maritime

A maritime city-state can provide food to your civilization.

Militaristic

A militaristic city-state can provide units to your army.

Communicating with City-States

In order to communicate with a city-state, you must find it first. When one of your units encounters a city-state, the city-state will tell you what type it is (see “Types of City-States” on page 96), and it will often give you a gift of gold as well. (This is another good reason to explore the world!)

Once you have met, the city-state may periodically make contact with you to ask you to undertake “missions” (see “City-State Missions” on page 98). If you want to get in touch with the city-state, you can click on the city itself, or you can go through the Diplomacy Panel.

City-State Influence

Your relations with each city-state are measured by “Influence Points” (IPs). They usually start at zero and your actions can increase or decrease them (yes, they can go quite negative!). Your current IP level is noted on the city-state's banner.

GOLD: THE GIFT THAT KEEPS ON GIVING!

One of the most cost-effective ways to increase your IP total is to give a city-state gold. To give a city-state gold, click on the city-state itself and then pick the appropriate menu item.

GIVE THEM UNITS

You can also give a city-state units. One way to do this is to move the unit into the city-state's territory and then click on the “Give Unit” button in the unit's Action menu. (You can also



give them units anywhere on the screen through the city-state Diplomacy screen.) It should be noted that gold usually is the better gift, unless the city-state is specifically requesting units.

DOING NOTHING

If you don't do anything, your IPs will tend to revert to zero over time: if your IPs are positive, they'll reduce by a small amount each turn. If they're negative, they'll increase by a small amount each turn. (The exact amount can vary based on the City-State's personality.) So if you want to maintain positive relations with a city-state, you'll have to periodically complete a mission or give them a gift.

TRESPASSING

Note that you lose a handful of IPs per turn for each of your units "trespassing" in a city-state's territory. If you are friends with the city-state, you can move through its territory with no consequences.

Influence Levels

PERMANENT WAR

You've so totally angered the city-state that it will never accept peace with you. This occurs if you've gobbled up too many of the city-states around you – the survivors will band together and try to wipe you off the planet. They simply won't deal with you any more: there's nothing to do here but fight 'em off.

WAR

While at war with a city-state, your influence will remain negative and they certainly won't give you any stuff. However, unless you're at permanent war or they're allied with one of your enemies, a city-state will always accept a peace deal.

NEUTRAL

The city-state doesn't especially like or hate you. You can give them gold or do missions to improve your IP level, or you can degrade your IP by trespassing and suchlike.

FRIENDS

If you're "friends" with a city-state, the city-state will periodically give you gifts – a cultured city-state will give you culture; a maritime city-state will give you food; and a militaristic city-state will give you military units.

ALLIES

If you're allied with a city-state, you'll get a stronger version of the benefits of friendship. In addition, the city-state will give you all of their luxury and strategic resources. Only one civilization can be allied with a city-state at a time – if multiple are eligible, whichever has the highest IPs gets the position.

City-State Missions

Periodically, a city-state may announce a “mission” – perhaps it’s being plagued by barbarians, for example, or its people seek knowledge of Natural Wonders, or perhaps they’re being attacked by another civilization and they seek allies.

If you complete the mission before another civ does so, you’ll earn Influence Points with the city-state.

War of the City-States

You can declare war on a city-state at any time. You can do so through the Diplomatic Panel or by ordering one of your units to attack a city-state’s unit or city. You can offer peace to a city-state through the Diplomatic Panel or by clicking on the city.

It’s important to remember that if you attack too many city-states, many will declare war on you and you will not be able to make peace with them. This can be shockingly unpleasant if you’re not ready for them.

Liberating a City-State

If another civ has captured a city-state and you capture it from them, you have the option to “liberate” that city-state. If you do so, you’ll immediately get a huge bunch of IPs from that city-state. In addition, that city-state will always vote for you during “World Leader” elections (see below).

Diplomatic Victory

You win a Diplomatic Victory by winning an election for the position of World Leader once the UN is constructed. If going this route, remember that city-states will vote for whoever has the highest IP level, unless they have been “Liberated” by a civilization, in which case they’ll vote for their liberator. (See the section on Victory for details.)

GREAT PEOPLE



Great People are the artists, merchants, engineers, scientists and warriors who can, single-handedly, change the course of a civilization. They're people like Leonardo da Vinci, Andrew Carnegie, Louis Pasteur, and Robert E. Lee. Great People are extremely powerful. Great People are cool.

There are five types of Great People: Great Artists, Great Engineers, Great Merchants, Great Scientists, and Great Generals. The first four types are quite similar in functionality, while Great Generals are rather different: they are

generated differently and they have different effects upon play. Great Generals will be discussed in detail below; first, let's examine the other four types of Great People.

Generating Great People

Great Artists, Engineers, Merchants and Scientists are created in cities by specialists and Wonders which generate "Great People" (GP) points. A city may generate no Great People points, or it may generate a single kind of GP points or it may generate multiple kinds of GP points. Each city's GP points are kept track of separately. (For example, Kyoto might generate 1 Artist and 2 Engineer GP points each turn. After 3 turns it would have 3 Artist points and 6 Engineer GP points. The two types of points are not pooled.)

When a city has enough of a specific type of GP points, the points are expended to generate a Great Person of that type. Once a Great Person is generated, the amount required for the next Great Person increases in *all* of that player's cities.

For instance, let's say that a player needs to acquire 10 GP points to get a Great Person. From the previous example, in five turns Kyoto would have enough Engineer GP points to create a Great Engineer. After the Great Engineer was created, Kyoto would have 0 Great Engineer points and 5 Great Artist points left, and the amount required for the next Great Person would increase to say 15 points. Eight turns later Kyoto would have 13 Great Artist points and 16 Great Engineer points, and it would generate another Great Engineer.

Note that a Garden building increases the rate at which you generate Great People, and that the "Warrior Code" social policy immediately generates a Great General.

Great Peoples' Abilities

Each Great Person type has three abilities (but see "The Great General" on page 102).

- They can be expended to create a "Golden Age" (see next page).
- They can be expended to construct a Special Improvement.
- They have some other special ability.

Note that the names of the Great People have no effect upon play. Beethoven and da Vinci are both Great Artists and both have the same powers.

GOLDEN AGE

A "Golden Age" is a period of special productivity for a civilization. During a Golden Age, any tile which produces gold produces 1 extra gold, and any tile which produces production (hammers) produces 1 extra hammer. (Obviously this has no effect unless citizens are working the tiles.) The duration of the Golden Age depends upon the game difficulty and speed, and decreases each time a Great Person is used to begin one (this will never fall below 3 turns, however). The Great Person is expended when he or she creates a Golden Age.

SPECIAL IMPROVEMENT

Each Great Person type can be expended to create a Special Improvement on a tile within your civilization's borders. The Special Improvement's effects depend upon which Great Person is creating it – a Great Artist's Special Improvement generates culture, for example, while a Great Merchant's generates cash.

A Special Improvement must be worked in order to have any effect. A Special Improvement can be pillaged and repaired like any other Improvement. If constructed atop a resource, the Special Improvement will *not* provide access to that resource.

Note that you have to move the Great Person out of the city and into your territory to construct a Special Improvement. See "Moving Great People" on page 102 for details.

SPECIAL ABILITY

The Great Person's Special Ability can have major effects upon the game. Once again, each Great Person type has a different Special Ability. Some (but not all) Special Abilities require you to expend the Great Person.

Great Artist



SPECIAL IMPROVEMENT: LANDMARK

A Landmark Improvement provides loads of culture to the city.

SPECIAL ABILITY: CULTURE BOMB

A Great Artist can "Culture Bomb" any tile inside or adjacent to your territory. That tile and all six surrounding it immediately become your territory.

A Culture Bomb will "flip" foreign territory to your territory, but it won't flip a foreign city (although the foreign city may suddenly find itself surrounded by your terrain). Flipping foreign terrain is not an automatic act of war, though some civilizations will no doubt find the act offensive. Note that another artist can flip the terrain back at a later point – there's no limit to the frequency or number of times that a tile can flip during a game.

Great Engineer



SPECIAL IMPROVEMENT: MANUFACTORY

You can expend an Engineer to create a Manufactory. A Manufactory produces huge amounts of production (hammers) for the city, if it is worked.

SPECIAL ABILITY: HURRY PRODUCTION

You can expend a Great Engineer to create a sudden burst of production in a city. The production is immediately applied to whatever is presently being built in the city – unit, building or Wonder. This will usually be enough production to immediately finish all but the most massive Wonders, and it will drastically shorten their production time.

Great Merchant



SPECIAL IMPROVEMENT: CUSTOMS HOUSE

You can expend a Great Merchant to create a Customs House. When worked, a Customs House generates a lot of gold per turn for its city.

SPECIAL ABILITY: TRADE MISSION

You can expend a Great Merchant while it is within a city-state's borders to conduct a "Trade Mission" with the city-state. This provides you with a huge chunk of gold, and it boosts your civ's relationship with that city-state.

Great Scientist



SPECIAL IMPROVEMENT: ACADEMY

You can expend a Great Scientist to create an Academy. While worked, the Academy will give your city a big science boost.

SPECIAL ABILITY: LEARN NEW TECHNOLOGY

You can expend your Great Scientist to immediately learn a new technology. This doesn't have to be the tech you're currently working on: you can choose from all techs currently available to you.

The Great General



The Great General is somewhat different from other Great People. Instead of being generated in cities by specialists, Great Generals are generated by combat. Whenever one of your military units gets XPs, your civilization generates Great General points. When you've got enough points, you earn a Great General. At that point the amount you need for the next Great General rises. (Note: If an experienced unit dies, part of its earned XPs are removed from the Great General pool.) You can also earn a Great

General by acquiring the Warrior Code social policy or by completing the Brandenburg Gate.

GREAT GENERAL IMPROVEMENT: CITADEL

The Citadel provides a big defensive bonus to any unit occupying it. Further, it damages any enemy unit that ends its turn next to the Citadel. Note that a Citadel functions only when it's in your territory. If it were, say, culture-bombed, it would change hands, being effective only for the other player.

SPECIAL ABILITY: COMBAT BONUS

A Great General provides a combat bonus to all friendly units within 2 tiles. This combat bonus applies to all forms of combat: melee, ranged, defense, and so forth.

Moving Great People

Great People can move about the board like any other units. They are non-combat units, which means that they cannot stack in a tile with other non-combat units (Workers, Settlers), but they can stack with one military unit. If an enemy unit enters a Great Person's tile, that Great Person is automatically destroyed (the enemy doesn't get it.)

GOLD

Ah, Gold! Gold is wonderful stuff. You can use it to build an army, to pay for a road network, to purchase buildings and Wonders, to buy the friendship of a city-state and to bribe an enemy civilization.

It may be true that "money can't buy you love," but it can purchase a submarine armed with nuclear missiles, and that's not bad.

Where to Get Gold

Gold comes from a variety of sources. You'll get most of your gold by working the tiles around your cities, but other sources are available as well.

Terrain Types

These tiles provide gold when your citizens work them:

- **Coast Tiles**
- **Ocean Tiles**
- **River Tiles**
- **Natural Wonders**
- **Oasis**

Resources

All resources (especially gold!) provide gold when worked.

The Trading Post

Construct a trading post improvement in a tile to increase its gold output.

Buildings

Many buildings – markets, banks – increase a city's output of gold, especially if you assign merchant specialists to them.

Wonders

Some Wonders provide or increase a city's output of gold. Check out Machu Picchu and the Colossus.

Also, if you're constructing a Wonder and another civ finishes it before you do, you get a gold bonus (the size of the bonus depends upon how much progress you've made on the Wonder).

Trade Routes

If a city is connected by a road and/or harbor to your capital city, that city has a "trade route" with the capital. Each trade route is worth a certain amount of gold each turn, the amount determined by the population of the connected city.

BLOCKADE

An enemy naval unit within 2 tiles of a port city will “blockade” that city, rendering its harbor trade route inoperative until the enemy unit is driven off or destroyed.

Barbarian Encampment

You’ll earn gold each time you disperse a Barbarian Encampment

Ancient Ruins

An ancient ruin may provide gold when it is explored.

City-States

A city-state may give you gold when you first meet. It may provide more later if you befriend it. (See “City-States” on page 96 for details.)

Pillage Enemy Improvements

Pillaging enemy improvements will give you a modest amount of gold.

Capturing Cities

You may gain a bunch of gold when you capture a city (city-state or civilization’s possession).

Diplomacy

You may gain gold – lump sum or an amount each turn for 20 turns – during negotiations with another civ.

Perform a “Trade Mission”

A Great Merchant can perform a “trade mission” in a city-state. The Merchant is expended and you get lots of gold. (See “Great People” on page 99.)

Expending Gold

There’s lots of stuff to spend gold on.

Unit and Building Maintenance

Units and buildings both have “maintenance costs” that must be paid every turn. See the individual entries on the units and buildings for specific amounts. (Note that these maintenance costs are dependent upon the difficulty level at which you’re playing.)

Road Maintenance

You spend gold for each road tile that you construct. If you absorb another civ’s roads into your territory, you pay for their maintenance as well.

Purchase Tiles

You can extend your civilization's territory by purchasing individual tiles. Go to a City Screen, and then click on "Buy a Tile." The map will display all tiles available for purchase. Click on the tile to expend the requisite gold and purchase the tile.

Purchasing Units, Buildings or Wonders

You can spend gold to purchase units, buildings or Wonders in a city. Click on an item (if you can afford it!) and it will be immediately constructed in the city, and the amount deducted from your treasury.

Note that "projects" – the Utopia Project, the Manhattan Project, etc. – cannot be purchased.

Upgrading Obsolete Units

Over time, you'll learn new technologies that will allow you to create better military units than those you previously could. When this occurs, you'll have the option to "upgrade" the older units, turning them into the newer, more powerful models. (For example, once you learn Iron Working, you can upgrade any Warrior units you possess into Swordsmen.) Each upgrade costs some gold – the more powerful the upgrade, the more expensive it will be.

A unit must be in your territory to be upgraded. When an upgrade is available for a unit, the "Upgrade" button will appear in the unit's Action list.

Buying Friendship with City-States

If you want to improve your relationship with a city-state, one way to do so is to give it some gold. Increasing amounts of gold may be given for larger boosts to friendship.

Diplomacy

You can exchange gold with other civilizations for any number of reasons – trading it for resources, for example, to get the other civ to make peace with you, or to bribe the civ to attack a third. Gold is extremely useful in negotiations.

There are two different ways to exchange gold: flat fee and per turn.

FLAT FEE

A "Flat Fee" exchange is just that. You give or receive a one-time lump sum of gold, and then you're done.

PER TURN

You can also negotiate an exchange that occurs over a number of turns (the number of which varies depending on your Game Pace). For example, you might agree to pay the other civ 5 gold per turn for 30 turns. These agreements are rendered null and void if the two civilizations go to war.



Getting Plundered

If the fiendish barbarians successfully attack one of your cities, they "plunder" some of your gold and you retain the city.

Losing a City

If a civilization or city-state captures one of your cities, they take some of your gold (as well as the city).

Running Out of Gold

If your treasury is at zero and you're running a negative budget, the difference is deducted from your Science. Beware: this can seriously slow down your acquisition of new technology, which can leave you extremely vulnerable to attack by more advanced neighbors. Get your budget in order as quickly as possible!

HAPPINESS

Happiness is a measure of your citizens' contentment. As a rule, the larger your total population, the unhappier everybody gets. An unhappy population doesn't grow very rapidly, and a very *unhappy* population will affect the fighting quality of your armies as well.

Your civ's happiness is displayed on the Status Bar of the Main Screen (in the upper left-hand corner of the game). Watch it carefully. If it reaches zero, your population is getting restless. If it starts to dip into negative numbers, you're in trouble. (Incidentally, you can get an excellent snapshot of your population's happiness by hovering your cursor over this number.)

Starting Happiness

The amount of happiness that your civilization begins with is determined by the game's difficulty setting. The moment you construct your first city, that number will begin to decline.

What Causes Unhappiness

The following cause unhappiness:

- **Raw Population:** As your civ grows, the people get increasingly unhappy and demand more stuff to keep them amused.
- **Number of Cities:** As the number of cities in your civ grows, so does your unhappiness. In other words, a civ with 2 cities each of population 1 is unhappier than a civ with 1 city of population 2, even though they both contain the same total population.
- **Annexed Cities:** If you capture and annex foreign cities, your population doesn't much like it.

What Causes Happiness

The following increase your population's happiness:

- **Natural Wonders:** Each natural wonder you discover permanently increases your civilization's happiness.
- **Luxury Resources:** Improve resources within your territory or trade for them with other civs. Each kind of resource improves your population's happiness (but you don't get extra happiness for having multiple copies of a single luxury).
- **Buildings:** Certain buildings increase your population's happiness. These include the Coliseum, the Circus, the Theatre, and others. Each building constructed anywhere in your civ increases your overall happiness (so two Coliseums produce twice as much happiness as one, unlike Luxuries).
- **Wonders:** Certain wonders like Notre Dame and the Hanging Gardens can give you a big boost in happiness.
- **Social Policies:** Policies from the Piety branch provide a lot of happiness, as do a few policies in other branches.
- **Technologies:** Technologies in themselves don't provide happiness, but they do unlock the buildings, wonders, resources and social policies which do.

Levels of Unhappiness

There are two levels of unhappiness. Neither is very pleasant.

Unhappy



When your happiness is negative and your happiness icon is looking sad, your population is “unhappy.” An unhappy population’s growth rate is significantly slowed, but there are no other ill effects.

Very Unhappy



When your happiness is negative and your happiness icon is looking angry, your population is “very unhappy.” If your population is very unhappy, your cities stop growing altogether, you cannot build any Settlers, and your military units get a nasty combat penalty.

Remember that unhappiness is not permanent. You can always increase your citizens’ happiness — no matter how pissed off they are at you — through the methods outlined above.

GOLDEN AGES

During certain periods, some civilizations seem to burst with energy and vitality. The civilization's people become increasingly productive, technology advances come fast and furious, and its culture is the envy of the world. Italy during the Renaissance is one such example, and the United States during the second half of the 20th century is another. In *Civilization V*, such periods are called "Golden Ages."

Entering a Golden Age



There are several different ways to enter a Golden Age:

Expend a Great Person: You can expend a great person to trigger an immediate Golden Age.

Happiness Bucket: If your civilization is generating more happiness than is required to keep your population content, the excess happiness is collected in a "happiness bucket." When that bucket acquires enough happiness, a Golden Age is triggered. (If your civilization is unhappy, happiness is drained from the bucket.)

Effects of a Golden Age

In a golden age, any tile that produces gold produces an additional gold, and any tile which produces production produces an additional production. When the Golden Age ends, gold and production levels return to normal.

Duration of the Golden Age

A happiness bucket-based Golden Age is 10 turns. A Great Person-based Golden Age is shorter. Great Person-based Golden Ages decrease in length each time you expend a Great Person to create one, however, they never fall below 3 turns each.

WONDERS

Wonders are the spectacular buildings, inventions, and concepts that have stood the test of time and changed the world forever. Wonders require much time, energy and effort to complete, but once constructed they provide your civilization with many benefits.

There are two types of wonders: World Wonders and National Wonders.

World Wonders

World Wonders are unique; only one of each can be constructed during a game. (For example, the Great Lighthouse is a World Wonder; whichever civilization completes it first is the only one who can build it.) Great Wonders tend to be extremely powerful and extremely expensive, as well.

Losing the Construction Race

If another civilization completes a Great Wonder while you are in the process of building it, your construction ceases and a certain amount of your production efforts are converted into gold. (This doesn't occur with National Wonders, since each civ can have its own version of a National Wonder.)

National Wonders

National Wonders may be built once by each civilization in the game. That is, each civilization can have its own National Epic Wonder (though no civilization can have two of them).

Effects of Wonders

A Wonder can have a huge variety of effects. One might greatly increase a city's productivity, while another might increase your civilization's happiness. A third might increase your civilization's output of Great People, and a fourth might increase the defensive strength of all of your cities.

Check the Civlopedia's Wonder entries for more details.

Capturing Wonders

If you capture a city, you will capture all World Wonders constructed in it. All National Wonders are destroyed, however.

Projects

Projects are a special kind of construction akin to Wonders in that they perform special functions unlike other buildings. Some Projects may be constructed only once per civilization, like the Apollo Program, or multiple times over the course of the game, such as the SS Booster.

Unlike Wonders, which give your civ immediate bonuses upon completion, Projects help unlock other features or units in the game (like the ability to build the Atomic Bomb) or are necessary components to build for Victory. See "Culture" on page 80 and "Science Victory" on page 116 for more information.

Also unlike any other production item in a city, Projects *may not* be purchased or hurried.

DIPLMACY

Diplomacy is important in *Civilization V*. The world is huge and filled with other civilizations whose leaders are just as cunning and determined as you are. Some are honest; others are liars. Some are warlike and others prefer peace. But all want to win.

You can accomplish a lot through diplomacy. You can gain allies and isolate your enemies. You can create defensive and offensive pacts. You can increase your technology through cooperative research ventures. You can end wars that are going badly for you. You can bluff the credulous and bully the timid.

It's a big, tough world out there, and you won't last long if you automatically attack everybody you meet. Sometimes it really is better to talk than to fight – at least until their back is turned and you're ready to launch the big sneak attack.

Who Can Conduct Diplomacy

You can speak to a city-state or another civilization's leader at any time after you've established diplomatic relations with them. This happens automatically when one of your cities or units encounters one of their cities or units. (In fact, the desire to establish diplomatic relations is one of the driving forces behind world exploration.) After you've established diplomatic relations with another political entity you can speak with them at any time. Though they may not have much to say if they hate your guts.

Note that another civ or city-state may attempt to open negotiations with you, as well, after you've established diplomatic relations.

Initiating Diplomacy

To initiate diplomacy, click on the Diplomacy Panel button. The Diplomacy Panel will appear, displaying all known civilizations and city-states in the game. Click on an entry to speak with that leader. Alternatively, you can click on a civ's or city-state's city banner to open communications with them.

What you can accomplish depends upon whether you're speaking with a civilization or a city-state.

Diplomacy with Civilizations

When you engage in diplomacy with civilizations, you have these options:

Declare War

Click on this button to declare war against the civilization.

Negotiate Peace

If you're at war with the civ, you can discuss peace.

Trade

You can negotiate a trade deal with the civilization. Clicking on this button will bring up the Trade Screen.

Demand

You can demand stuff from the other civ. It may comply if you're a lot bigger than it or if it otherwise feels it's appropriate. Or it may declare war on you. You never know...

Discuss

This button allows you to open up dialog on a variety of topics. Depending upon circumstances you may do any of the following. The leader's response will depend upon his or her relations with you and their own self-interest.

- Ask the leader to work together.
- Ask the leader to work against another civilization.
- Ask the leader to go to war against another civ.
- Request that the leader not build any more new cities near you.

Exit

Press this to exit diplomacy with the leader.



The Trade Screen



trade items, to make research agreements and to enter into agreements require knowledge of certain technologies before you can trade something, it is greyed out. Hover your cursor over a line to

to two sides. Your civ's stuff is on the right side, and the other

Click on items on your side to offer them to your trading partner; click on items on his or her side to indicate what you want in return. You might for example offer your opposite number "Open Borders" (permission for his units to enter your territory) in return for "Open Borders" (permission for your units to enter his territory).

However, trades do not need to be equal: you can, for example, ask for "Open Borders" in return for gold, or nothing. Once you've set up the trade you want, click on the "Propose" button to present it to the other civ. If the other civ accepts the offer it goes into effect immediately. If the other civ rejects it, you can click on "What would make this deal work?" to ask what the leader wants. (Note: there are times when the AI will never give up a certain item, no matter how good your offer.)

Sometimes the other leader will make you an offer. You can accept the offer or make a counter-offer or decline it altogether. Click on the "Exit" button to leave this screen.

Trade agreement lengths vary by game speed, with longer Game Paces yielding longer agreement lengths. Agreement lengths below are given for a Standard Pace game.

Open Borders Agreement

Once you have discovered Writing, you can enter into an Open Borders agreement with another civ. (City-States can't make Open Borders agreements.) While an Open Borders agreement is in effect, the other civ's units can enter your territory without automatically triggering war. If the agreement is mutual, either civ's units can enter the other's territory freely; however it doesn't have to be mutual: one civ can grant another Open Borders without automatically receiving it in return.

An Open Borders agreement lasts for 30 turns. When 30 turns have passed, the agreement must be renegotiated or it lapses.

Defensive Pact

Once you have acquired the Chivalry tech, you may engage in a Defensive Pact. Defensive Pacts are always mutual. If a signatory to a Defensive Pact is attacked, the other partner is automatically at war with the attacker.

A Defensive pact lasts for 30 turns. When that time has elapsed, the pact lapses unless it is renegotiated. The defensive pact is nullified if one of the participants declares war on anybody.

Research Agreements

Once you have acquired the Philosophy tech, you may engage in a Research Agreement with another civ which also has Philosophy. A research agreement costs each side gold (if you don't have the required gold, you can't be part of an agreement). For the duration of the Agreement, each civ gets a bonus to its research.

The Research Agreement lasts 30 turns. You must make a new Agreement (and pay additional gold) if you want to extend it for another 30.

Trading Cities

You can trade cities with other civilizations. Generally, civilizations will not trade cities unless in dire circumstances or in exchange for huge payouts. You cannot trade your capital city.

City trades are *permanent*.

Other Players

You can ask your trading partner to interact with other civs that you both know. You can ask him or her to declare war or make peace with another player.

Resources

You can trade Strategic and Luxury resources with another civ. The other civ gets all of the benefits of the resource for the duration of the trade (30 turns).

Negotiating with City-States

City-States are much less complicated than civilizations. You have fewer options when negotiating with them. Generally you can offer them gold or goods, or declare war or offer peace. Sometimes they will ask favors of you. See "City-States" on page 96 for more details.

Declaring War

You can declare war on a city-state or another civilization through the Diplomacy Panel or by simply attacking one of their units. You can declare war on a civ by entering their territory without an Open Borders agreement, as well.

They can declare war on you in the same fashion.

Negotiating Peace

While at war, you can offer to negotiate peace through the Diplomacy Panel. Your opponent may refuse to negotiate altogether, in which case the war will continue.

If it's willing to negotiate at all, a city-state will always accept an offer of peace without preconditions.

If your opponent is a civilization who is willing to discuss peace, you may negotiate the price for peace on the Trade Table. Depending upon circumstances one side or the other may give the opponent gold, treaties, cities, and/or resources in exchange for peace.

Note that your opponent can also offer to negotiate peace. It's usually a good idea to at least see what they're offering before deciding upon your response

VICTORY AND DEFEAT

There are multiple paths to victory in *Civilization V*. You can win through scientific dominance, becoming the first civ to create and launch a space ship to Alpha Centauri. You can overwhelm the other civilizations through cultural superiority or political cunning. Or you can employ the ever-popular “crush all of your enemies beneath the wheels of your chariot” tactic and win a mighty domination victory. Whichever civilization achieves a set of victory conditions first wins.

It's important to keep an eye on your opponents' progress toward victory as you advance your own civilization. There's nothing so annoying as to be on the verge of capturing your last surviving enemy's final city, only to watch helplessly as he or she completes her spaceship and wins an upset scientific victory.



City-States and Victory

City-States *cannot* win a game of *Civilization V*. Only major civilizations can do so.

How to Lose

There are three paths to failure in *Civilization V*.

Losing Your Last City

If you lose your last city – to another civilization or to an angry city-state — then you lose immediately. This is very embarrassing, so don't let it happen to you.

Another Civilization Wins

If another civilization achieves one of the four victories explained below, game over: you lose. It doesn't matter if you were about to achieve your own victory, whoever wins first wins, and everybody else loses.

2050 Arrives

If the year 2050 arrives and nobody has won one of the victories below, the game ends automatically and the civilization with the highest score wins (see below).

How to Win

There are five paths to victory available to you in *Civilization V*:

Domination

If you are the last player in possession of your own original capital you win. So if you capture all other civs' capitals and hang onto your own, you've achieved victory. However, this can be tricky. Suppose you're in a five-player game and you capture three of your opponents' original capitals, but the fifth player sneaks in and captures your capital while you're not paying attention – then he would win immediately. In other words, it doesn't matter who captures what: it's the last player holding onto his original capital who gets the victory.

If you've lost your original capital, but still possess other cities, you can still win another type of victory: culture, scientific, or diplomatic. However, you cannot win a conquest victory until and unless you recapture your own original capital.

DESTROYING AN ORIGINAL CAPITAL

Simply: can't be done. A capital cannot be destroyed by any means. It can be *captured*, but not destroyed. Dropping a nuke on the city will at worst reduce its population to 1, but the city will not be destroyed. Accept it and move on. (Remember that you can drive another civ out of the game by destroying or capturing all of its cities, so you can still wipe your foes off the map even if you can't erase their capital from the face of the earth...)

CURRENT CAPITAL VS. ORIGINAL CAPITAL

If your original capital has been captured, another of your cities will automatically be assigned as a replacement capital. This city functions in all ways like the original, except that it *can* be destroyed, and it does not count towards a Conquest victory.

If you ever retake your original capital, it will resume its leadership position in your civilization.

Science Victory

You achieve a science victory by learning the necessary technologies to create all of the pieces of the space ship, then building the parts and moving them to your current capital (or building them there in the first place).

SPACE SHIP PARTS

Space ship parts are constructed and move around the map like any other unit. Each requires an advanced technology to construct. They are non-combat units and are automatically destroyed if captured. Once a part has been constructed, order it to move to your current capital. When it arrives you'll be asked if you want to add it to your space ship.

When all space ship parts have been added, the ship will launch into space and you will have won a science victory!

Incidentally, space ship parts cannot be rushed or purchased. They must be constructed in a city.

Cultural

To win a cultural victory, you must acquire five complete "branches" of social policies – that is, you must own all policies within six different branches. Once you've done that, the "Utopia Project" is unlocked. Construct that project and you win a cultural victory. You cannot rush or purchase this project; it must be constructed.

Diplomatic Victory

When a player learns the "Globalization" technology, he or she can construct the United Nations. Once that is constructed, a vote will be taken every few turns for the position of World Leader. If a leader gets enough votes to win the position, he or she immediately wins a diplomatic victory.

The amount of votes needed to win a diplomatic victory depends upon the number of civilizations in play at the start of the game.

WHO VOTES?

All civilizations and city-states have a vote. The civilization which possesses the United Nations has two votes.

Civilizations always vote for themselves, *unless* liberated, in which case they vote for their liberator (see below).

City-States vote for the civilization with the best relations, unless they've been liberated, in which case they vote for their liberator.

LIBERATION

If you take a city-state that has been captured by another civilization, you have the choice to annex the city-state, make it a puppet, or liberate it. If you choose to liberate a city-state, then it will *always* vote for you in UN elections, no matter what its relations are with you at the time of the vote. If the same city-state has been liberated twice, it will vote for the civ which liberated it most recently.

If a civilization has been removed from the game and you capture one of those civ's cities, you have the option of annexing it, making it your puppet, or liberating it. If you do so, the civilization returns to play. The liberated civ will always vote for you in UN elections. In case of multiple liberators, the civ will vote for whoever liberated them most recently.

The End of Time

If no one has achieved victory, the game ends automatically at the end of 2050. The Scores of all surviving civs will be tallied and a victor announced. You may continue playing the game after this point, but victory will no longer be a factor.

Your Score

In many *Civilization V* games, one of the players will win the game by achieving one of the four possible victories: Domination, Science, Diplomacy, or Culture. However, if no one achieves one of these victories by the year 2050, the winner is determined by the surviving civilization's "score."

And if someone does win outright before 2050, their score will determine their place on the "Hall of Fame" screen. Here's how scores are calculated.

Elimination

If you are eliminated from the game, your score is zero. (Sorry.)

Time to Victory

If you achieve victory before 2050, you receive a "score multiplier." The earlier the victory, the better.

Score

You earn points for:

- The number of tiles in your borders (this is the least important factor in victory)
- The number of cities in your empire
- Your population
- The number of techs you possess
- The number of "future techs" you possess
- The number of Wonders you have constructed (this is the most important factor in determining victory)

Map Size and Game Difficulty

The size of the map that you play on will determine the Score each civ receives for tiles, number of cities, and population. The game difficulty you choose will determine the overall value of all points in the game: the higher the difficulty, the more everything's worth. (In other words, winning a crushing victory on the easiest level will probably be worth fewer points than eking out a marginal victory on the toughest level.)

Your Current Score



You can see everybody's current score on the Diplomacy Panel. If you hover the cursor over your score, you'll see where your points are coming from. (That doesn't work on other civs' scores, however.)

Note that the Score is not permanent: they can come and go across the course of a game. If you construct a Wonder, you then get the points for it. But if somebody else captures the city it's in, they get those points.

SECTION 3: ADVANCED RULES

AIR COMBAT

By the Second World War, air power has come to dominate warfare around the world. Air power acts as a “force multiplier” in combat, and the nation that can establish air supremacy over the battlefield has a huge advantage over the enemy.

Perhaps most importantly, strategic bombing has become a central force in modern warfare, and with the advent of nuclear ballistic missiles, it has the ability to literally wipe an entire civilization off the face of the planet.

Air power is critical to victory in *Civilization V*.



Air Units

There are five main types of air units in *Civilization V*: helicopter gunships, missiles, fighters, bombers, and anti-air ground units. Helicopter gunships are the closest to standard ground combat units and will be discussed separately.

Of the air units, missiles are essentially “one-shot” weapons: you fire ‘em, they hit their target and they’re gone. Fighters are primarily used to defend against enemy air power and to clear the target of interceptors to allow bombers to hit their targets. Bombers do damage to targets on the ground, if not intercepted. Anti-air units defend against fighters and bombers.

Helicopter Gunships

As stated above, helicopter gunships are quite similar to standard land units. They are extremely effective at killing tanks, but remain vulnerable to anti-aircraft fire.

Gunship Movement

Gunships can move over all terrain types including mountains and ice, at a cost of 1 MP each. They can also move over coastal waters at the same price. They cannot enter deep water unless they embark.

Anti-Tank Bonus

Gunships can do serious damage to tank units (which is why most armor is accompanied by hefty anti-air assets on the modern battlefield).

Air Bases

With the exception of gunships, air units do not move around the map like ground and naval units. They must be “based” on a friendly city. Fighters and some bombers can be based upon aircraft carriers as well. Missile units may be based on cities, nuclear submarines, and missile cruisers. Air units cannot embark (except gunships). If on extended sea voyages, they must be carried by the appropriate vessel – carrier, cruiser, or nuclear sub.

Anti-air units and helicopters don’t need to be “based”. They move around the map like other units, and can embark.

Base Locations

FIGHTERS AND JET FIGHTERS

Fighters and jet fighters can be based on cities and aircraft carriers.

BOMBERS

Bombers can be based on cities and aircraft carriers.

STEALTH BOMBERS

Stealth bombers can be based on cities only.

ATOMIC BOMBERS

Atomic bombers can be based on cities and on aircraft carriers.

ALL MISSILES

Missiles can be based on cities, on missile cruisers and on nuclear submarines.

Naval Unit Capacity

CARRIERS

A carrier can carry up to three air units (fighters, bombers and atomic bombers).

MISSILE CRUISER

A missile cruiser can carry up to three missiles of any type.

NUCLEAR SUBMARINE

A nuclear submarine can carry up to two missiles of any type.

Air Unit Stacking

You can have any number of missiles, fighters and bombers in a single tile. There is no “stacking” limitation for these units. They can be stacked with both combat and non-combat units. Helicopters and anti-air units must follow the standard stacking rules.

Air Range

In place of a movement stat, air units have “range.” This is the distance from a base that they can perform “missions.” It’s also the distance that they can “rebase” – move from one base to another. For example, a fighter unit has a range of 8. It can perform its missions against any tile within 8 spaces of its current base, and it can move to another base (city or carrier) that is within 8 spaces as well.

An air unit that rebases cannot perform another mission in the same turn.

Recon

Fighters, jet fighters and stealth bombers have a special “recon” ability. At the start of their turn, everything within 6 tiles of their base is visible. This isn’t a mission and it doesn’t use up their turn: it happens automatically.

Missions

During an air unit’s turn, it can perform one of a number of “missions.” These include making air strikes (ranged attacks against ground targets), rebasing, interception (defending against enemy air attack) and “sweeping” (disabling enemy interception). Some air units can perform only a subset of these missions.

Rebase

The air unit moves to a new base within its range.

Air Strike

The air unit attacks a ground target within its air range.

Air Sweep

The air unit “sweeps” a target tile, disabling “intercepting” units.

Interception

The air unit prepares to defend against enemy air attacks. (Note that ground-based anti-air units automatically intercept when attacked by air; they don’t need special orders.)

Air Strikes

When a unit is ordered to make an “air strike” against an enemy city or unit, if it is not intercepted, it performs a ranged attack against the target. Unlike most ranged attacks, however, the attacking unit can take damage from the attack. (In another words, if you bomb a tank, it might hurt you.) If the air striking unit survives, it returns to its base.

Missiles and bombers have the most powerful air strikes.

Interception

Fighters and jet fighters can be set to “intercept” enemy air attacks. (AA gun and mobile SAM automatically intercept; they don’t need to be given a special mission.) If an air unit tries an air strike against a target within the range of an intercepting unit, the interceptor will fire on the attacker and do damage to it. Unless the attacker is killed by the interceptor, the air strike proceeds.

Only one unit can intercept an air strike, and once it does so, it cannot intercept any more that turn (though certain promotions can increase this). So if you’re expecting multiple air attacks on a target, you might want to pile multiple fighters and AA units on and around that target.

Air Sweeps

When attacking a target that is heavily protected by fighters and AA units, a fighter can perform the “air sweep” mission against that target to “use up” the enemy’s interception capability. If the fighter is intercepted by an enemy fighter, the two units dogfight, and one or the other might be damaged or destroyed. If the fighter is intercepted by a ground unit, it will take damage from the ground unit (but less so than a unit on an air strike mission would).

Missiles

Missiles are one-shot weapons. They perform a single air strike mission against a target, and then, win or lose, they are destroyed. Unlike normal aircraft, *missiles cannot be intercepted*.

Air Unit List

B17



Strength: Ranged: 60

Range: 10

Cost: 520

Technology Required: Radar

Resources Required: Oil

Special Abilities: An American Unique Unit, it receives 50% less damage from interceptions and an extra +25% combat bonus against Cities.

Bomber



Strength: Ranged: 60

Range: 10

Cost: 520

Technology Required: Radar

Resources Required: Oil

Special Abilities: None

Fighter



Strength: Ranged: 50

Range: 8

Cost: 420

Technology Required: Flight

Resources Required: Oil

Special Abilities: Can Intercept other units, perform Air Sweeps and Recons, and receives a combat bonus versus Helicopters.

Helicopter Gunship



Strength: 50

Range: 6

Cost: 450

Technology Required: Rocketry

Resources Required: Aluminum

Special Abilities: Ignores terrain movement costs and receives a bonus verses Tanks.

Jet Fighter



Strength: Ranged: 70

Range: 10

Cost: 600

Technology Required: Lasers

Resources Required: Aluminum

Special Abilities: Can Intercept other units, perform Air Sweeps and Recons, and receives a combat bonus versus Helicopters.

Stealth Bomber



Strength: Ranged: 80

Range: 20

Cost: 800

Technology Required: Stealth

Resources Required: Aluminum

Special Abilities: Can perform Air Recons and receives a 100% bonus to Evasion.

Zero



Strength: 50

Range: 8

Cost: 420

Technology Required: Flight

Resources Required: Oil

Special Abilities: A Japanese Unique Unit, it can Intercept other units, perform Air Sweeps and Recons, and receives a combat bonus versus Helicopters and Fighters.

NUKES

Nuclear Weapons are extremely powerful weapons. They blow a lot of stuff up and poison the land and sea. They should only be used as a last resort — or if you're absolutely sure that you're the only one who has them — because once they start flying, the whole world can quickly become an extremely unpleasant place to be.

As someone once said, "One nuclear bomb can ruin your whole day."

Atomic Bombs

The first nuclear weapon available in the game, the atomic bomb is a very powerful unit that can quickly alter the world's balance of power. Atomic bombs are similar to missiles in that they can only attack once. Unlike missiles, they may be stationed on aircraft carriers. The damage radius for the atomic bomb is 2 tiles in every direction. Units caught in the blast will be damaged, and cities will lose population if hit.

An "A-bomb" cannot totally destroy a city. No matter how many times a city is hit by atomic bombs, it will not be destroyed.

Nuclear Missiles

While the atomic bomb does a fair amount of damage, nuclear missiles are truly devastating. All units caught in the blast radius are destroyed, and the damage done to cities is even greater. Unlike atomic bombs, nuclear missiles are even capable of wiping cities off the map completely (note that a player's original capital may not be destroyed in this manner).

As their name implies, nuclear missiles are missile units, which means they may be stationed on missile cruisers or nuclear submarines, but not aircraft carriers.

Bombs and ICBM Unit List

Atomic Bomb



Strength: N/A

Range: 10

Cost: 850

Technology Required: Nuclear Fission

Resources Required: Uranium

Special Abilities: This special unit does massive damage to cities and all surrounding units caught within its 2-tile blast radius. Receives a +50% bonus to Evasion.

Guided Missile



Strength: Ranged: 70

Range: 8

Cost: 200

Technology Required: Satellites

Resources Required: None

Special Abilities: Cannot be intercepted.

Nuclear Missile



Strength: N/A

Range: 8

Cost: 1200

Technology Required: Advanced Ballistics

Resources Required: Uranium

Special Abilities: This special unit does massive damage to cities and all surrounding units caught within its blast radius. Receives a +50% bonus to Evasion.

UNIT LIST

Following is a list of the units in the game, separated by military category. All costs are based on a Standard Game Pace.

Archery Unit List

Archer



Strength: 4, Ranged: 6

Range: 2

Movement: 2

Cost: 70

Technology Required: Archery

Resources Required: None

Special Abilities: Performs Ranged attacks.

Chu-Ko-Nu



Strength: 6, Ranged: 10

Range: 2

Movement: 2

Cost: 120

Technology Required: Machinery

Resources Required: None

Special Abilities: A Chinese Unique Unit, it may attack twice in one turn. Performs Ranged attacks.

Crossbowman



Strength: 6, Ranged: 12

Range: 2

Movement: 2

Cost: 120

Technology Required: Machinery

Resources Required: None

Special Abilities: Performs Ranged attacks.

Longbowman



Strength: 6, Ranged: 12

Range: 2

Movement: 2

Cost: 120

Technology Required: Machinery

Resources Required: None

Special Abilities: A British Unique Unit, it receives a +1 bonus to its Range.
Performs Ranged attacks.

Armored Unit List

Modern Armor



Strength: 80

Movement: 4

Cost: 700

Technology Required: Lasers

Resources Required: Aluminum

Special Abilities: Can move after performing an attack.

Giant Death Robot



Strength: 150

Movement: 3

Cost: 1000

Technology Required: Nuclear Fusion

Resources Required: Uranium

Special Abilities: Can move after performing an attack.

Panzer



Strength: 60

Movement: 5

Cost: 450

Technology Required: Combustion

Resources Required: Oil

Special Abilities: A German Unique Unit, it can move after performing an attack.

Tank



Strength: 50

Movement: 4

Cost: 450

Technology Required: Combustion

Resources Required: Oil

Special Abilities: Can move after performing an attack.

Civilian Unit List

Settler



Movement: 2

Cost: 89

Technology Required: None

Resources Required: None

Special Abilities: This special unit can found a new city.

Work Boat



Movement: 4

Cost: 30

Technology Required: Sailing

Resources Required: None

Special Abilities: This special unit can construct water tile improvements.

Worker



Movement: 2

Cost: 70

Technology Required: None

Resources Required: None

Special Abilities: This special unit can construct and repair land-based tile improvements.

Gunpowder Unit List

Anti-Aircraft Gun



Strength: 32

Movement: 2

Range: 2

Cost: 300

Technology Required: Radio

Resources Required: None

Special Abilities: Can perform aircraft Interceptions and receives a +100% combat bonus to aircraft and Helicopters.

Anti-Tank Gun



Strength: 32

Movement: 2

Cost: 300

Technology Required: Replaceable Parts

Resources Required: None

Special Abilities: Receives a bonus against Tanks.

Foreign Legion



Strength: 36

Movement: 2

Cost: 300

Technology Required: Replaceable Parts

Resources Required: None

Special Abilities: A French Unique Unit, it receives a +20% combat bonus when fighting outside friendly territory.

Infantry



Strength: 36

Movement: 2

Cost: 300

Technology Required: Replaceable Parts

Resources Required: None

Special Abilities: None

Janissary



Strength: 16

Movement: 2

Cost: 120

Technology Required: Gunpowder

Resources Required: None

Special Abilities: An Ottoman Unique Unit, it receives a +25% combat bonus and can heal all damage if it destroys another unit in an attack.

Mechanized Infantry



Strength: 50

Movement: 4

Cost: 440

Technology Required: Electronics

Resources Required: None

Special Abilities: None

Minuteman



Strength: 16

Movement: 2

Cost: 120

Technology Required: Gunpowder

Resources Required: None

Special Abilities: An American Unique Unit, all terrains it crosses only cost 1 Movement point.

Mobile SAM



Strength: 40

Range: 2

Movement: 4

Cost: 450

Technology Required: Computers

Resources Required: Aluminum

Special Abilities: Can perform air Interceptions, and receives a +100% combat bonus versus aircraft and Helicopters.

Musketeer



Strength: 20

Movement: 2

Cost: 120

Technology Required: Gunpowder

Resources Required: None

Special Abilities: A French Unique Unit.

Musketman



Strength: 16

Movement: 2

Cost: 120

Technology Required: Gunpowder

Resources Required: None

Special Abilities: None

Paratrooper



Strength: 40

Movement: 2

Cost: 350

Technology Required: Radar

Resources Required: None

Special Abilities: This special unit may "paradrop" up to five tiles away from friendly territory.

Rifleman



Strength: 25

Movement: 2

Cost: 200

Technology Required: Rifling

Resources Required: None

Special Abilities: None

Melee Unit List

Brute



Strength: 6

Movement: 2

Cost: 20

Technology Required: None

Resources Required: None

Special Abilities: The earliest Barbarian Unit, the Brute may be converted to the player's side when playing as Bismarck.

Hoplite



Strength: 9

Movement: 2

Cost: 60

Technology Required: Bronze Working

Resources Required: None

Special Abilities: A Greek Unique Unit, it receives a +100% bonus against mounted units.

Immortal



Strength: 8

Movement: 2

Cost: 60

Technology Required: Bronze Working

Resources Required: None

Special Abilities: A Persian Unique Unit, it receives a +100% bonus against mounted units and heals at double the normal rate.

Jaguar



Strength: 6

Movement: 2

Cost: 40

Technology Required: None

Resources Required: None

Special Abilities: An Aztec Unique Unit, it receives a +50% combat bonus when fighting in Jungle tiles and heals 2 damage if it destroys another unit.

Landsknecht



Strength: 10

Movement: 2

Cost: 50

Technology Required: Civil Service

Resources Required: None

Special Abilities: A German Unique Unit, it receives a +100% bonus against mounted units.

Legion



Strength: 13

Movement: 2

Cost: 90

Technology Required: Iron Working

Resources Required: Iron

Special Abilities: A Roman Unique Unit, it is capable of constructing roads and forts.

Longswordsman



Strength: 18

Movement: 2

Cost: 150

Technology Required: Steel

Resources Required: Iron

Special Abilities: None

Mohawk Warrior



Strength: 11

Movement: 2

Cost: 80

Technology Required: Iron Working

Resources Required: Iron

Special Abilities: An Iroquois Unique Unit, it receives a bonus when fighting in forest or jungle tiles.

Pikeman



Strength: 10

Movement: 2

Cost: 100

Technology Required: Civil Service

Resources Required: None

Special Abilities: Receives a +100% bonus against mounted units.

Samurai



Strength: 18

Movement: 2

Cost: 150

Technology Required: Steel

Resources Required: Iron

Special Abilities: A Japanese Unique Unit, it receives a +20% combat bonus when fighting in open terrain and is very likely to spawn Great Generals while fighting.

Spearman



Strength: 7

Movement: 2

Cost: 50

Technology Required: Bronze Working

Resources Required: None

Special Abilities: Receives a +100% combat bonus against mounted units.

Swordsman



Strength: 11

Movement: 2

Cost: 80

Technology Required: Iron Working

Resources Required: Iron

Special Abilities: None

Warrior



Strength: 6

Movement: 2

Cost: 40

Technology Required: None

Resources Required: None

Special Abilities: The first military unit available in the game.

Mounted Unit List

Camel Archer



Strength: 10, Ranged: 15

Range: 2

Movement: 3

Cost: 150

Technology Required: Chivalry

Resources Required: Horses

Special Abilities: An Arabian Unique Unit, it can move after attacking and performs ranged attacks.

Cavalry



Strength: 25

Movement: 3

Cost: 260

Technology Required: Military Science

Resources Required: Horses

Special Abilities: Can move after attacking.

Chariot Archer



Strength: 3, Ranged: 6

Range: 2

Movement: 4

Cost: 60

Technology Required: The Wheel

Resources Required: Horses

Special Abilities: Performs ranged attacks.

Companion Cavalry



Strength: 14

Movement: 5

Cost: 80

Technology Required: Horseback Riding

Resources Required: Horses

Special Abilities: A Greek Unique Unit, it can move after attacking and combat is likely to spawn Great Generals.

Cossack



Strength: 25

Movement: 3

Cost: 260

Technology Required: Military Science

Resources Required: Horses

Special Abilities: A Russian Unique Unit, it receives a combat bonus when fighting in open terrain and can move after attacking.

Horseman



Strength: 12

Movement: 4

Cost: 80

Technology Required: Horseback Riding

Resources Required: Horses

Special Abilities: Can move after attacking.

Knight



Strength: 18

Movement: 3

Cost: 150

Technology Required: Chivalry

Resources Required: Horses

Special Abilities: Can move after attacking.

Lancer



Strength: 22

Movement: 4

Cost: 220

Technology Required: Metallurgy

Resources Required: Horses

Special Abilities: Can move after attacking.

Mandekalu Cavalry



Strength: 18

Movement: 3

Cost: 150

Technology Required: Chivalry

Resources Required: Horses

Special Abilities: A Songhai Unique Unit, it receives a +30% combat bonus against cities and can move after attacking.

Naresuan's Elephant



Strength: 22

Movement: 2

Cost: 150

Technology Required: Chivalry

Resources Required: None

Special Abilities: A Siamese Unique Unit, it receives a +50% combat bonus against mounted units and can move after attacking.

Sipahi



Strength: 22

Movement: 5

Cost: 220

Technology Required: Metallurgy

Resources Required: Horses

Special Abilities: An Ottoman Unique Unit, it can pillage tiles without expending Movement Points, receives a +1 bonus to its visibility, and can move after attacking.

War Chariot



Strength: 3, Ranged: 6

Range: 2

Movement: 5

Cost: 60

Technology Required: The Wheel

Resources Required: None

Special Abilities: An Egyptian Unique Unit, it performs ranged attacks.

War Elephant



Strength: 6, Ranged: 8

Range: 2

Movement: 3

Cost: 80

Technology Required: The Wheel

Resources Required: None

Special Abilities: An Indian Unique Unit, it performs ranged attacks.

Naval Unit List

Battleship



Strength: 40, Ranged: 32

Range: 3

Movement: 4

Cost: 500

Technology Required: Telegraph

Resources Required: Oil

Special Abilities: Performs ranged attacks and can Indirect Fire.

Carrier



Strength: 20

Movement: 5

Cost: 520

Technology Required: Flight

Resources Required: Oil

Special Abilities: Can carry up to three air units.

Caravel



Strength: 10, Ranged: 7

Range: 2

Movement: 6

Cost: 90

Technology Required: Astronomy

Resources Required: None

Special Abilities: Performs ranged attacks, can enter rival territory and receives a +2 bonus to Sight.

Destroyer



Strength: 25, Ranged: 22

Range: 2

Movement: 8

Cost: 380

Technology Required: Electricity

Resources Required: None

Special Abilities: Performs ranged attacks and air Interceptions, can see submarines, receives a +3 bonus to Sight, receives a +100% combat bonus against submarines, and can Indirect Fire.

Frigate



Strength: 20, Ranged: 15

Range: 2

Movement: 5

Cost: 130

Technology Required: Navigation

Resources Required: Iron

Special Abilities: Performs ranged attacks.

Galley



Strength: 5, Ranged: 3

Range: 2

Movement: 3

Cost: 50

Technology Required: None

Resources Required: None

Special Abilities: An early Barbarian Naval Unit, it performs ranged attacks and may be converted to your side when playing as the Ottomans.

Ironclad



Strength: 55, Ranged: 26

Range: 2

Movement: 4

Cost: 160

Technology Required: Steam Power

Resources Required: Coal

Special Abilities: Performs ranged attacks.

Missile Cruiser



Strength: 75, Ranged: 40

Range: 3

Movement: 8

Cost: 320

Technology Required: Robotics

Resources Required: Aluminum

Special Abilities: Performs ranged attacks, can Indirect Fire, perform air interceptions, and carry up to three missile units.

Nuclear Submarine



Strength: 20, Ranged: 70

Range: 3

Movement: 6

Cost: 500

Technology Required: Computers

Resources Required: Aluminum

Special Abilities: Is invisible to other units, can see other submarines, can enter rival territory, can carry up to two missile units, may enter ice tiles, receives a +50% combat bonus against submarines, and performs ranged attacks.

Ship of the Line



Strength: 20, Ranged: 17

Range: 2

Movement: 5

Cost: 110

Technology Required: Navigation

Resources Required: Iron

Special Abilities: A British Unique Unit, it receives a +1 bonus to Sight and performs ranged attacks.

Submarine



Strength: 15, Ranged: 60

Range: 3

Movement: 5

Cost: 380

Technology Required: Refrigeration

Resources Required: Oil

Special Abilities: Is invisible to other units, can see other submarines, can enter ice tiles, can enter rival territory and performs ranged attacks.

Trireme



Strength: 6, Ranged: 4

Range: 2

Movement: 4

Cost: 50

Technology Required: Sailing

Resources Required: None

Special Abilities: Performs ranged attacks.

Project Unit List

SS Booster



Movement: 2

Cost: 700

Technology Required: Robotics

Resources Required: None

Special Abilities: 3 required for a Science Victory.

SS Cockpit



Movement: 2

Cost: 1000

Technology Required: Satellites

Resources Required: None

Special Abilities: 1 required for a Science Victory.

SS Engine



Movement: 2

Cost: 1000

Technology Required: Particle Physics

Resources Required: None

Special Abilities: 1 required for a Science Victory.

SS Stasis Chamber



Movement: 2

Cost: 1000

Technology Required: Nanotechnology

Resources Required: None

Special Abilities: 1 required for a Science Victory.

Recon Unit List

Scout



Strength: 4

Movement: 2

Cost: 25

Technology Required: None

Resources Required: None

Special Abilities: Ignores terrain movement costs.

Siege Unit List

Artillery



Strength: 16, Ranged: 32

Range: 3

Movement: 2

Cost: 420

Technology Required: Dynamite

Resources Required: None

Special Abilities: Receives a +10% combat bonus versus cities, can Indirect Fire, performs ranged attacks, and must "set up" to attack.

Ballista



Strength: 4, Ranged: 18

Range: 2

Movement: 2

Cost: 100

Technology Required: Mathematics

Resources Required: Iron

Special Abilities: A Roman Unique Unit, it receives a +10% combat bonus versus cities, performs ranged attacks.

Cannon



Strength: 10, Ranged: 26

Range: 2

Movement: 2

Cost: 250

Technology Required: Chemistry

Resources Required: None

Special Abilities: Receives a +10% combat bonus versus cities, performs ranged attacks.

Catapult



Strength: 4, Ranged: 14

Range: 2

Movement: 2

Cost: 100

Technology Required: Mathematics

Resources Required: Iron

Special Abilities: Receives a +10% combat bonus versus cities, performs ranged attacks, and must "set up" to attack.

Rocket Artillery



Strength: 18, Ranged: 46

Range: 3

Movement: 3

Cost: 600

Technology Required: Rocketry

Resources Required: Aluminum

Special Abilities: Receives a +10% combat bonus versus cities, can Indirect Fire, and performs ranged attacks.

Trebuchet



Strength: 6, Ranged: 20

Range: 2

Movement: 2

Cost: 170

Technology Required: Physics

Resources Required: Iron

Special Abilities: Receives a +10% combat bonus versus cities, performs ranged attacks, and must "set up" to attack.

UNIT PROMOTIONS

Promotions are special abilities that can be gained by units once they have acquired a certain amount of XP. Depending on the buildings in a unit's city of origin, they may even start their life with promotions ready to be given. Promotion effects stack and do not overwrite each other.

Following is a list of all the available promotions in *Civilization V*. Remember, not all promotions are available to all types of units.

Accuracy I



Unit Types: Ranged

Prerequisites: None

Effects: +20% ranged combat strength against units in open terrain (anything but Hills, Forest, or Jungle).

Accuracy II



Unit Types: Ranged

Prerequisites: Accuracy I

Effects: +20% ranged combat strength against units in open terrain (anything but Hills, Forest, or Jungle).

Accuracy III



Unit Types: Ranged

Prerequisites: Accuracy II

Effects: +25% ranged combat strength against units in open terrain (anything but Hills, Forest, or Jungle).

Ambush I



Unit Types: Melee, Air

Prerequisites: Shock II, Drill II, Interception I, Dogfighting I, Siege I, or Bombardment I

Effects: +25% combat strength vs armored units.

Ambush II



Unit Types: Melee, Air

Prerequisites: Ambush I

Effects: +25% combat strength vs. armored units.

Amphibious



Unit Types: Melee, Naval

Prerequisites: Shock II or Drill II

Effects: Eliminates the combat penalty for attacking from sea or over a river.

Barrage I



Unit Types: Ranged

Prerequisites: None

Effects: +25% ranged combat strength against units in rough terrain (Hills, Forest, or Jungle).

Barrage II



Unit Types: Ranged

Prerequisites: Barrage I

Effects: +25% ranged combat strength against units in rough terrain (Hills, Forest, or Jungle).

Barrage III



Unit Types: Ranged

Prerequisites: Barrage II

Effects: +25% ranged combat strength against units in rough terrain (Hills, Forest, or Jungle).

Blitz



Unit Types: Melee

Prerequisites: Shock III or Drill III

Effects: Unit may attack multiple times in a turn.

Bombardment I



Unit Types: Ranged

Prerequisites: None

Effects: +20% combat strength against land units.

Bombardment II



Unit Types: Ranged

Prerequisites: Bombardment I

Effects: +20% combat strength against land units.

Bombardment III



Unit Types: Ranged

Prerequisites: Bombardment II

Effects: +20% combat strength against land units.

Charge



Unit Types: Melee

Prerequisites: Shock II or Drill II

Effects: +25% combat strength versus wounded units.

Cover I



Unit Types: Melee, Ranged

Prerequisites: Shock II, Drill II, Accuracy I, or Barrage I

Effects: +25% defense against all ranged attacks

Cover II



Unit Types: Melee

Prerequisites: Cover I

Effects: +25% defense against all ranged attacks.

Discipline



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +15% combat strength when adjacent to a friendly unit

Dogfighting I



Unit Types: Air

Prerequisites: None

Effects: +25% combat strength when performing an Air Sweep.

Dogfighting II



Unit Types: Air

Prerequisites: Dogfighting I

Effects: +25% combat strength when performing an Air Sweep.

Dogfighting III



Unit Types: Air

Prerequisites: Dogfighting II

Effects: +25% combat strength when performing an Air Sweep.

Drill I



Unit Types: Melee

Prerequisites: None

Effects: +20% combat strength when fighting on rough terrain (Hills, Forest, or Jungle).

Drill II



Unit Types: Melee

Prerequisites: Drill I

Effects: +20% combat strength when fighting on rough terrain (Hills, Forest, or Jungle).

Drill III



Unit Types: Melee

Prerequisites: Drill II

Effects: +25% combat strength when fighting on rough terrain (Hills, Forest, or Jungle).

Embarkation



Unit Types: Melee, Ranged

Prerequisites: None

Effects: Can embark into water tiles.

Evasion



Unit Types: Melee, Ranged

Prerequisites: Siege II or Bombardment II

Effects: Reduces damage taken from interceptions by 50%.

Formation I



Unit Types: Melee, Ranged

Prerequisites: Shock II, Drill II, Accuracy II, or Barrage II

Effects: +25% combat strength versus mounted units.

Formation II



Unit Types: Melee

Prerequisites: Formation I

Effects: +25% combat strength versus mounted units.

Great Lighthouse



Unit Types: Naval

Prerequisites: None

Effects: +1 Movement and +1 Sight

Heal Instantly



Unit Types: Melee

Prerequisites: None

Effects: Instead of receiving a permanent promotion, completely heal this unit instantly.

Himeji Castle



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +25% combat strength in friendly territory

Indirect Fire



Unit Types: Ranged

Prerequisites: Targeting I, Bombardment I, Accuracy I, or Barrage I

Effects: Ranged attacks may be performed over obstacles

Interception I



Unit Types: Air

Prerequisites: None

Effects: +25% combat strength when intercepting enemy aircraft.

Interception II



Unit Types: Air

Prerequisites: Interception I

Effects: +25% combat strength when intercepting enemy aircraft.

Interception III



Unit Types: Air

Prerequisites: Interception II

Effects: +25% combat strength when intercepting enemy aircraft.

Logistics



Unit Types: Melee, Siege, Ranged

Prerequisites: Siege II, Bombardment II, Ambush II, or Mobility II

Effects: 1 additional attack per turn.

March



Unit Types: Melee, Ranged

Prerequisites: Shock III, Drill III, Accuracy II, or Barrage II

Effects: Unit will heal every turn, even if it performs an action.

Medic



Unit Types: Melee

Prerequisites: Shock I, Drill I, Scouting II, or Survivalism II

Effects: This unit and all others in adjacent tiles heal an additional 1 HP per turn.

Mobility I



Unit Types: Melee, Air, Ranged

Prerequisites: Shock III, Drill III, Targeting I, or Bombardment I

Effects: +1 Movement

Mobility II



Unit Types: Air

Prerequisites: Mobility I

Effects: +1 Movement

Morale



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +15% combat strength

Nationalism



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +25% attack bonus in friendly territory

Naval Tradition



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +1 Movement and +1 Sight

Oligarchy



Unit Types: Melee, Air, Naval, Ranged

Prerequisites: None

Effects: +33% Combat Strength in friendly territory.

Range



Unit Types: Air, Ranged

Prerequisites: Interception I, Accuracy III, Dogfighting I, Siege I, or Bombardment I

Effects: +2 operational range for Air, +1 range for Ranged

Repair



Unit Types: Melee, Air

Prerequisites: Shock III, Drill III, Interception II, Ambush II

Effects: Unit will heal every turn, even if it performs an action.

Siege I



Unit Types: Melee, Air

Prerequisites: None

Effects: +25% combat strength versus cities.

Siege II



Unit Types: Air

Prerequisites: Siege I

Effects: +25% combat strength versus cities.

Siege III



Unit Types: Air

Prerequisites: Siege II

Effects: +25% combat strength versus cities.

Scouting I



Unit Types: Recon

Prerequisites: None

Effects: +1 visibility range.

Scouting II



Unit Types: Recon

Prerequisites: Scouting I

Effects: +1 Movement.

Scouting III



Unit Types: Recon

Prerequisites: Scouting II

Effects: +1 visibility range.

Sentry



Unit Types: Melee, Naval, Ranged

Prerequisites: Shock I, Drill I, Targeting I, or Bombardment I

Effects: +1 visibility range.

Shock I



Unit Types: Melee

Prerequisites: None

Effects: +20% combat strength when fighting in open terrain (anything but Hills, Forest, or Jungle).

Shock II



Unit Types: Melee

Prerequisites: Shock I

Effects: +20% combat strength when fighting in open terrain.

Shock III



Unit Types: Melee

Prerequisites: Shock II

Effects: +25% combat strength when fighting in open terrain.

Sortie



Unit Types: Melee, Air

Prerequisites: Interception II or Dogfighting II

Effects: 1 extra interception may be made per turn.

Supply



Unit Types: Naval

Prerequisites: Targeting II or Bombardment II

Effects: A unit may heal damage outside friendly territory, and up to 2 HP per turn.

Survivalism I



Unit Types: Melee

Prerequisites: None

Effects: Heal an additional 1 HP when outside friendly territory.

Survivalism II



Unit Types: Melee

Prerequisites: Survivalism I

Effects: +50% Defense.

Survivalism III



Unit Types: Melee

Prerequisites: Survivalism II

Effects: +50% Defense. Unit will heal every turn, even if it performs an action.

Targeting I



Unit Types: Naval, Air

Prerequisites: None or Interception I

Effects: +20% combat strength against naval units.

Targeting II



Unit Types: Naval, Air

Prerequisites: Targeting I

Effects: +20% combat strength against naval units.

Targeting III



Unit Types: Naval

Prerequisites: Targeting II

Effects: +20% combat strength against naval units.

Volley



Unit Types: Ranged

Prerequisites: Accuracy I or Barrage I

Effects: +25% combat strength versus fortified units

WONDER LIST

Following is a list of all the wonders in the game, including natural wonders, and the effects and requirements of each.

World Wonders

Angkor Wat



Tech Requirement: Theology

Cost: 300

Cultural Output: 1

Great People Points: 1 Engineer Point

Effects: Culture cost of acquiring new tiles reduced by 75% in every city.

Big Ben



Tech Requirement: Economics

Cost: 700

Cultural Output: 1

Great People Points: 2 Merchant Points

Effects: Cost of Gold purchasing in all Cities is reduced by 25%

Brandenburg Gate



Tech Requirement: Military Science

Cost: 550

Cultural Output: 1

Great People Points: 2 Scientist Points

Effects: Free Great General

Chichen Itza



Tech Requirement: Civil Service

Cost: 450

Cultural Output: 1

Great People Points: 1 Engineer Point

Effects: Length of Golden Ages increased by 50%.

The Colossus



Tech Requirement: Bronze Working

Cost: 150

Cultural Output: 1

Great People Points: 1 Merchant Point

Effects: +1 Gold from all worked water tiles. Must be built in a City located along a Coast.

Cristo Redentor



Tech Requirement: Telegraph

Cost: 1200

Cultural Output: 1

Great People Points: 2 Artist Points

Effects: Culture cost of adopting new Policies reduced by 33%.

Eiffel Tower



Tech Requirement: Radio

Cost: 1000

Cultural Output: 1

Great People Points: 2 Merchant Points

Effects: +8 Happiness empire-wide.

The Forbidden Palace



Tech Requirement: Banking

Cost: 600

Cultural Output: 1

Great People Points: 1 Artist Point

Effects: Influence with all City-States is increased by 50%.

The Great Library



Tech Requirement: Writing

Cost: 150

Cultural Output: 1

Great People Points: 1 Scientist Point

Effects: Gain a Free Technology.

The Great Lighthouse



Tech Requirement: Sailing

Cost: 130

Cultural Output: 1

Great People Points: 1 Merchant Point

Effects: +1 Movement and +1 Sight for all Naval Units. Must be built in a City along a Coast.

The Great Wall



Tech Requirement: Construction

Cost: 350

Cultural Output: 1

Great People Points: 1 Engineer Point

Effects: Enemy land units must spend 1 additional Movement Point when inside your territory.

The Hagia Sophia



Tech Requirement: Theology

Cost: 300

Cultural Output: 1

Great People Points: 1 Artist Point

Effects: Great People generate 33% faster.

The Hanging Gardens



Tech Requirement: Mathematics

Cost: 200

Cultural Output: 1

Great People Points: 1 Artist Point

Effects: +1 Population in all existing Cities, +3 Happiness Points.

Himeji Castle



Tech Requirement: Chivalry

Cost: 600

Cultural Output: 4

Great People Points: 2 Engineer Points

Effects: +25% Combat Strength bonus to all units in friendly territory.

The Kremlin



Tech Requirement: Acoustics

Cost: 650

Cultural Output: 4

Great People Points: 1 Scientist Point

Effects: All Defensive Buildings are 50% more effective.

The Louvre



Tech Requirement: Archaeology

Cost: 700

Cultural Output: 1

Great People Points: 2 Artist Points

Effects: 2 free Great Artists appear near the Capital.

Machu Picchu



Tech Requirement: Currency

Cost: 550

Cultural Output: 1

Great People Points: 1 Merchant Point

Effects: +20% more Gold from all Trade Routes. Must be built in a City within two tiles of a Mountain.

Notre Dame



Tech Requirement: Education

Cost: 500

Cultural Output: 1

Great People Points: 1 Merchant Point

Effects: +5 Happiness Points

The Oracle



Tech Requirement: Philosophy

Cost: 150

Cultural Output: 1

Great People Points: 1 Scientist Point

Effects: Gain a free Social Policy.

Pentagon



Tech Requirement: Radar

Cost: 1200

Cultural Output: 1

Great People Points: 2 Merchant Points

Effects: Gold cost of upgrading military units reduced by 50%.

The Porcelain Tower



Tech Requirement: Education

Cost: 400

Cultural Output: 1

Great People Points: 2 Scientists Points

Effects: A Great Scientist appears near the city where the Wonder is built.

The Pyramids



Tech Requirement: Masonry

Cost: 175

Cultural Output: 1

Great People Points: 1 Engineer Point

Effects: Worker construction speed is increased by 50%.

Sistine Chapel



Tech Requirement: Acoustics

Cost: 650

Cultural Output: 1

Great People Points: 2 Artist Points

Effects: An additional +33% Culture is produced in all Cities.

Statue of Liberty



Tech Requirement: Replaceable Parts

Cost: 1200

Cultural Output: 1

Great People Points: 3 Engineer Points

Effects: +1 Production gained for every Specialist in all Cities.

Stonehenge



Tech Requirement: Calendar

Cost: 120

Cultural Output: 8

Great People Points: 1 Engineer Point

Effects: +8 Culture.

Sydney Opera House



Tech Requirement: Globalization

Cost: 1000

Cultural Output: 1

Great People Points: 2 Artist Points

Effects: Choose one free Social Policy.

Taj Mahal



Tech Requirement: Printing Press

Cost: 700

Cultural Output: 1

Great People Points: 2 Artist Points

Effects: Length of Golden Ages is increased by 50%.

United Nations



Tech Requirement: Globalization

Cost: 1000

Cultural Output: 1

Great People Points: 2 Merchant Points

Effects: Completion triggers voting for the Diplomatic Victory.

National Wonders

National wonders may be constructed once a specific building is existent in all cities in your empire.

Hermitage



Tech Requirement: Archaeology

Cost: 310

Culture Output: 0

Building Required: Museum

Effects: Doubles output of Culture in this City.

Heroic Epic



Tech Requirement: Iron Working

Cost: 110

Cultural Output: 1

Building Required: Barracks or Russian Krepost

Effects: All new Units in this City receive the Morale Promotion for free.

Ironworks



Tech Requirement: Chemistry

Cost: 170

Cultural Output: 1

Building Required: Workshop, Iroquois Longhouse

Effects: +20% Production in the City where this is built.

National College



Tech Requirement: Writing

Cost: 120

Cultural Output: 1

Building Required: Library, Chinese Paper Maker

Effects: +50% Science in the City where this is built.

National Epic



Tech Requirement: Philosophy

Cost: 120

Cultural Output: 1

Building Required: Monument

Effects: +25% Great People generation in the City where this is built.

Oxford University



Tech Requirement: Education

Cost: 260

Cultural Output: 1

Building Required: University, Siamese Wat

Effects: Gain a free Technology.

Palace



Tech Requirement: None

Cost: 0

Cultural Output: 1

Building Required: None

Effects: Indicates the Capital City and is built automatically for free. Cities connected to the Capital by roads produce additional Gold. Also produces an extra +2 Production, +3 Science, +2 Gold, and +2 Defense for this City.

BUILDING LIST

Armory



Tech Requirement: Iron Working

Cost: 130

Maintenance: 3

Specialist Slot: None

Effects: +15 EXP for all new Land Units, requires a Barracks or the Russian Krepost in the City

Arsenal



Tech Requirement: Railroad

Cost: 350

Maintenance: 3

Specialist Slot: None

Effects: +20% Production of Land Units, requires a Military Academy.

Bank



Tech Requirement: Banking

Cost: 220

Maintenance: 0

Specialist Slot: Merchants

Effects: +25% Gold, requires a Market.

Barracks



Tech Requirement: Bronze Working

Cost: 80

Maintenance: 1

Specialist Slot: None

Effects: +15 XP for all new Land Units.

Bazaar



Tech Requirement: Currency

Cost: 120

Maintenance: 0

Specialist Slot: Merchants

Effects: An Arabian Unique Building, it grants +25% more Gold and provides 1 extra copy of each Luxury Resource near the City.

Broadcast Tower



Tech Requirement: Radio

Cost: 600

Maintenance: 3

Specialist Slot: None

Effects: Doubles the culture output of a City, but requires a Museum.

Burial Tomb



Tech Requirement: Theology

Cost: 120

Maintenance: 0

Specialist Slot: None

Effects: +2 Culture and +2 Happiness empire-wide, but it doubles the amount of Gold the enemy receives if this City is captured. An Egyptian Unique Building.

Castle



Tech Requirement: Chivalry

Cost: 200

Maintenance: 3

Specialist Slot: None

Effects: +7.5 Combat Strength to the City, requires Walls be present in the City.

Circus



Tech Requirement: Horseback Riding

Cost: 150

Maintenance: 3

Specialist Slot: None

Effects: +3 Happiness. The City must have a source of improved Horses or Ivory nearby.

Colosseum



Tech Requirement: Construction

Cost: 150

Maintenance: 3

Specialist Slot: None

Effects: +4 Happiness

Courthouse



Tech Requirement: Mathematics

Cost: 200

Maintenance: 4

Specialist Slot: None

Effects: Eliminates Unhappiness from an Occupied City.

Factory



Tech Requirement: Steam Power

Cost: 300

Maintenance: 3

Specialist Slot: Engineers

Effects: +50% Production, requires that a Workshop or Longhouse be present, and consumes 1 Coal.

Floating Gardens



Tech Requirement: Optics

Cost: 120

Maintenance: 1

Specialist Slot: None

Effects: An Aztec Unique Building, the city gains +15% Food, and +2 Food for each worked Lake tile. The City must border either a Lake or River.

Forge



Tech Requirement: Metal Casting

Cost: 150

Maintenance: 2

Specialist Slot: None

Effects: +15% Production of Land Units, requires a source of Iron nearby.

Garden



Tech Requirement: Theology

Cost: 120

Maintenance: 2

Specialist Slot: Artists

Effects: +25% Great People generation, the City must be built along a River or Lake.

Granary



Tech Requirement: Pottery

Cost: 100

Maintenance: 1

Specialist Slot: None

Effects: +2 Food

Harbor



Tech Requirement: Compass

Cost: 80

Maintenance: 3

Specialist Slot: None

Effects: Forms a naval Trade Route with the Capital City, +25% Production of Naval Units, City must be on a coast.

Hospital



Tech Requirement: Biology

Cost: 400

Maintenance: 2

Specialist Slot: None

Effects: 50% less Food is needed for City growth.

Hydro Plant



Tech Requirement: Plastics

Cost: 600

Maintenance: 3

Specialist Slot: None

Effects: +1 Production for every tile bordering a River. Requires the City be located next to a River, and consumes 1 Aluminum.

Krepost



Tech Requirement: Bronze Working

Cost: 80

Maintenance: 1

Specialist Slot: None

Effects: A Russian Unique Building, it increases the City's cultural border growth by +50%. Also, the Krepost provides +15 XP for all new Land Units.

Library



Tech Requirement: Writing

Cost: 80

Maintenance: 1

Specialist Slot: Scientists

Effects: +1 Science for every 2 Citizens in the City.

Lighthouse



Tech Requirement: Optics

Cost: 80

Maintenance: 1

Specialist Slot: None

Effects: +1 Food from Water Tiles. The City must be located along the coast.

Longhouse



Tech Requirement: Metal Casting

Cost: 80

Maintenance: 2

Specialist Slot: Engineers

Effects: An Iroquois Unique Building, it provides +1 Production from each Forest tile worked by the City.

Market



Tech Requirement: Currency

Cost: 120

Maintenance: 0

Specialist Slot: Merchants

Effects: +25% Gold

Medical Lab



Tech Requirement: Penicillin

Cost: 500

Maintenance: 3

Specialist Slot: None

Effects: 25% less Food is needed for City growth. Requires a Hospital be present.

Military Academy



Tech Requirement: Military Science

Cost: 350

Maintenance: 3

Specialist Slot: None

Effects: +15 XP for all new Land Units, requires a Barracks or the Russian Krepost.

Military Base



Tech Requirement: Telegraph

Cost: 450

Maintenance: 4

Specialist Slot: None

Effects: +12 Combat Strength, requires that either a Castle or Mughal Fort be present.

Mint



Tech Requirement: Currency

Cost: 120

Maintenance: 0

Specialist Slot: None

Effects: Each source of city's worked Gold and Silver provides an extra +3 Gold.

Monastery



Tech Requirement: Theology

Cost: 120

Maintenance: 2

Specialist Slot: None

Effects: +3 Culture from nearby sources of Incense and Wine.

Monument



Tech Requirement: None

Cost: 60

Maintenance: 1

Specialist Slot: None

Effects: +2 Culture

Mud Pyramid Mosque



Tech Requirement: Philosophy

Cost: 120

Maintenance: 0

Specialist Slot: Artists

Effects: A Songhai Unique Building, the City gains +5 Culture.

Mughal Fort



Tech Requirement: Chivalry

Cost: 180

Maintenance: 3

Specialist Slot: None

Effects: An Indian Unique Building, it provides the City with +9 Combat Strength, +2 Culture, and after Flight is researched, extra Gold. Walls must be present in the City to build.

Museum



Tech Requirement: Archaeology

Cost: 350

Maintenance: 3

Specialist Slot: Artists

Effects: +5 Culture, requires an Opera House.

Nuclear Plant



Tech Requirement: Nuclear Fission

Cost: 600

Maintenance: 3

Specialist Slot: None

Effects: +25% Production, consumes 1 Uranium.

Observatory



Tech Requirement: Astronomy

Cost: 180

Maintenance: 2

Specialist Slot: None

Effects: +50% Science, requires that the City be built next to a Mountain.

Opera House



Tech Requirement: Acoustics

Cost: 220

Maintenance: 3

Specialist Slot: None

Effects: +5 Culture, requires that either a Temple or Mud Pyramid Mosque be present.

Paper Maker



Tech Requirement: Writing

Cost: 80

Maintenance: 1

Specialist Slot: Scientists

Effects: Chinese Unique Building, +1 Science for every 2 Citizens in the city, +4 Gold

Public School



Tech Requirement: Scientific Theory

Cost: 350

Maintenance: 3

Specialist Slot: Scientists

Effects: +50% Science, requires either a University or Wat be present.

Research Lab



Tech Requirement: Plastics

Cost: 600

Maintenance: 3

Specialist Slot: Scientists

Effects: +100% Science, requires that a Public School be present.

Satrap's Court



Tech Requirement: Banking

Cost: 220

Maintenance: 0

Specialist Slot: Merchants

Effects: A Persian Unique Building, it provides +25% Gold and +2 Happiness. Requires a Market in the City.

Seaport



Tech Requirement: Navigation

Cost: 140

Maintenance: 2

Specialist Slot: None

Effects: +2 Production from Sea Resources. The City must have at least one improved Sea Resource nearby.

Solar Plant



Tech Requirement: Ecology

Cost: 600

Maintenance: 3

Specialist Slot: None

Effects: +25% Production, but the City must be either located on or border a Desert.

Spaceship Factory



Tech Requirement: Robotics

Cost: 450

Maintenance: 3

Specialist Slot: None

Effects: +50% Production of Spaceship Parts. Requires that a Factory be present and consumes 1 Aluminum.

Stable



Tech Requirement: Horseback Riding

Cost: 100

Maintenance: 1

Specialist Slot: None

Effects: +25% Production of Mounted Units. The City must have a source of improved Horses nearby.

Stadium



Tech Requirement: Mass Media

Cost: 450

Maintenance: 6

Specialist Slot: None

Effects: +4 Happiness, requires a Theatre be present.

Stock Exchange



Tech Requirement: Electricity

Cost: 650

Maintenance: 0

Specialist Slot: Merchants

Effects: +33% Gold, requires either a Bank or Satrap's Court.

Temple



Tech Requirement: Philosophy

Cost: 120

Maintenance: 2

Specialist Slot: Artists

Effects: +3 Culture, and requires that a Monument be present in the City.

Theatre



Tech Requirement: Printing Press

Cost: 300

Maintenance: 5

Specialist Slot: None

Effects: +4 Happiness, requires a Colosseum.

University



Tech Requirement: Education

Cost: 200

Maintenance: 3

Specialist Slot: Scientists

Effects: +50% Science, +2 Science from worked Jungle Tiles. Requires a Library or Paper Maker in the City.

Walls



Tech Requirement: Masonry

Cost: 100

Maintenance: 1

Specialist Slot: None

Effects: +5 City Combat Strength

Wat



Tech Requirement: Education

Cost: 200

Maintenance: 2

Specialist Slot: Scientists

Effects: A Siamese Unique Building, it provides the City with +3 Culture and +50% Science Production.

Water Mill



Tech Requirement: The Wheel

Cost: 120

Maintenance: 2

Specialist Slot: None

Effects: +2 Food, City must border a River to construct.

Windmill



Tech Requirement: Economics

Cost: 180

Maintenance: 2

Specialist Slot: Engineers

Effects: +15% Production, but the City cannot be located on a Hill.

Workshop



Tech Requirement: Metal Casting

Cost: 100

Maintenance: 2

Specialist Slot: Engineers

Effects: +20% construction speed of buildings.

CIVILIZATION LIST

Following is a list of all the available civs and leaders in *Civilization V*, detailing their particular traits and unique abilities.

Arabia



The Muslim Empire of the Caliphate — also known as the Islamic Empire or the Arab kingdom — came into existence after the Prophet Mohammed's death in 632 AD, created by Mohammed's disciples as a continuation of the political authority he established. During its six-hundred-year existence, the Caliphate would grow to enormous size and power, dominating Spain, North Africa, the Middle East, Anatolia, the Balkans and Persia, ruling an empire that at least rivaled that of the Romans at the height of their power.

Leader: *Harun al-Rashid*

(763 – 809 AD)



Harun al-Rashid (which translates roughly as “Aaron the Rightly Guided”) was the fifth Abbasid Caliph, ruling the Arabian Empire from 786 to 809 AD. During his reign the Caliphate stretched from Spain in the west to Anatolia in the north to India in the east, and it was the largest and most powerful political entity in the world. Harun was an able ruler, and his reign was a time of scientific and cultural advancement and prosperity for his subjects.

Unique Trait

Trade Caravan: +2 Gold from each Trade Route.



Unique Unit

Camel Archer

Replaces Knight



Unique Building

Bazaar

Replaces Market

Aztec



The Aztecs were a Native American civilization that dominated central Mexico for roughly one hundred years in the 15th and 16th centuries. The Aztecs ruled a mighty empire and possessed a rich culture, producing some of the most impressive pre-Colombian architecture in North America. Today the Aztecs are best remembered for the bloodiness of their religious practices and rapidity with which they collapsed in the face of external assault, but at the height of their power they were indeed a mighty empire.

Leader: Montezuma

(c. 1397 – 1469 AD)



A mighty warrior and leader, Montezuma I helped propel the Aztec nation to greatness and glory. (He should not be confused with his unfortunate grandson Montezuma II, who watched helplessly as his empire was dismantled by Spanish Conquistadors.) He expanded his empire, personally led his armies to victory, and worked hard to improve the lot of his people. He certainly was a bloody man, personally sacrificing thousands of prisoners to his thirsty gods. But his religion said such barbarity was necessary — blood was required to ensure that the sun would rise, the crops would grow, and the Aztec nation would continue to prosper. And under Montezuma it did prosper greatly.

Unique Trait

Sacrificial Captives: *Gains Culture for the empire from each enemy unit killed.*



Unique Unit

Jaguar

Replaces Warrior



Unique Building

Floating Gardens

Replaces Watermill

China



China is a civilization spanning some six thousand years and comprising a large fraction of humanity. There is evidence of man's prehistoric ancestors living in China some two million years ago, and modern man has lived in the area for at least 18,000 years, possibly much longer. A creative and innovative people, the Chinese have given the world some of the most important inventions in history, including paper, gunpowder, the compass, and movable type. Once the self-proclaimed "center of the world," for many centuries China looked inward only, ignoring as much as possible all that went on outside of its borders. Having survived centuries of foreign colonial intervention and domination, today China has again become a great economic and industrial power.

Leader: Wu Zetian



(c. 625 – 705 AD)

Like most civilizations, China has been male-dominated throughout much of its history. Until very recently, women were afforded few rights, and direct power was all but totally denied to them. For a woman to attain the rank of Emperor, to become the most powerful person in China, was almost unheard of. Only one person in the entirety of Chinese history was able to do so. That person was Wu Zetian, one of the most remarkable rulers – female or male – the world has ever seen.

Unique Trait

Art of War: Effectiveness and birth rate of Great Generals increased.



Unique Unit

Chu-Ko-Nu

Replaces Crossbowman



Unique Building

Paper Maker

Replaces Library

Egypt



inspire us today.

Few civilizations have left such an indelible mark on history as that of Egypt. Living astride the mighty Nile River for some 5,000 years, Egypt is one of the oldest surviving civilizations on the planet. Among many other firsts, Egypt is credited with the invention of writing around 3000 BC. Using sophisticated mathematics, Egyptian scholars plotted the movement of the planets with great precision. And of course, the Egyptians were the ancient world's greatest architects, creating monuments and temples that still awe and

Leader: Ramesses The Great (c. 1303 – 1203 BC)



Ramesses II is considered to be Egypt's greatest and most powerful pharaoh. Taking the throne in his twenties, Ramesses ruled Egypt for more than 60 years. Ramesses is remembered as a great military leader as well as for the extensive construction programs he instituted. He is also remembered for building a new capital city, Pi-Ramesses. Some historians believe that Ramesses is the pharaoh in the biblical story of Moses.

Unique Trait

Monument Builders: +20% Production speed of Wonders.



Unique Unit

War Chariot

Replaces Chariot Archer



Unique Building

Burial Tomb

Replaces Temple

England



England is located on Great Britain, a “green and pleasant” island off the western coast of Europe. It is the largest member of the political entity known as the United Kingdom of Great Britain and Northern Ireland. Historically a seafaring people, for much of the past 500 years the English have used their incomparable navy to project their power into Europe and across the globe.

Queen Elizabeth's reign saw the first British colony established on the New World, while the powerful British navy protected the growing British interests across the world. England's earliest colonial interests lay in the Caribbean and North America, but over time they expanded into Asia and the South Pacific as well, and Britain would come to dominate the entire Indian subcontinent, the “Jewel in the British Crown.”

In the late 18th century Britain lost control of much of North America to the Thirteen Colonies (later, the United States of America) in a long and difficult revolution. While this was a great blow to British prestige, the Empire continued to expand unabated, and by the early 20th century the British Empire was the largest and most powerful in history, encompassing one quarter of the Earth's landmass and human population.

Although Great Britain lost most of its empire following the desperate struggles of World Wars I and II, the country has recovered much of its energy and pride in the years since. In the early 21st century Great Britain remains a powerful force in Europe and around the world.

Leader: Queen Elizabeth I (1533 – 1603 AD)



Elizabeth I was a remarkable woman living in a remarkable age. Beautiful, brilliant, and as tough as nails, she survived and indeed thrived, ruling in an era when most women were little more than chattel. Born with an unerring survival instinct and flair for self-promotion, her personal charisma and courage matched those of the strongest rulers in history. No better words can serve to describe her than her own: “I know I have the body of a weak and feeble woman, but I have the heart and stomach of a king.”

Unique Trait

Sun Never Sets: +2 MPs for all ocean-going naval units.



Unique Unit

Longbowman

Replaces Crossbowman



Unique Unit

Ship of the Line

Replaces Frigate

France



Located in Western Europe, bordering six (or seven, depending upon how you count them) European countries and with coasts on the Atlantic Ocean, the English Channel, and the Mediterranean, France has long been one of the great political, military and cultural powers of the Western world.

Born of Roman occupation, first unified by Charlemagne and the Holy Roman Empire, France achieved the height of its military power under the brilliant general Napoleon Bonaparte, following the catastrophic, world-shaking French Revolution. For ten years, France fought off the combined powers in Europe, singly and in groups, its armies seeing brilliant successes across Europe, an astonishing feat of arms even if ultimately unsuccessful.

Today France is a major power in the European union. It remains one of the great centers of culture on the planet, and its food, wine, and art have conquered the world, even if the Emperor could not.

Leader: Napoleon Bonaparte (1769 – 1821 AD)



It is virtually impossible to overstate the military genius of Napoleon Bonaparte. He moved his troops with astounding rapidity, and he always knew exactly where to strike in order to cause the most damage. Domestically he turned out to be an able administrator and imaginative ruler and France flourished under his control (until his endless wars sapped her strength and will to fight).

An Army general to his core, he never was able to create a navy able to seriously challenge Great Britain's dominance over the oceans, and this weakness eventually destroyed him. Had there been a land bridge connecting England and Europe, they'd probably be speaking French in Piccadilly Circus today.

Unique Trait

Ancient Regime: Provides +2 Culture per City until Steam Power.



Unique Unit

Foreign Legion

Replaces Infantry



Unique Unit

Musketeer

Replaces Musketman

Germany



While various “Germanic” peoples have occupied northern-central Europe for thousands of years, the modern political entity known as “Germany” is extremely young, created almost single-handedly by the brilliant Prussian politician Otto von Bismarck some 140 years ago. During its brief existence Germany has had a profound effect – for good and for bad – on human history. Following the catastrophic World Wars of the first half of the 20th century, its firm alliance with its historical rival, France, has allowed it to concentrate its energies on rebuilding its technological and economic base, and Germany has rebounded into a major European power once more.

Leader: Otto Von Bismarck (1815 – 1898 AD)



Otto von Bismarck, also known as the “Iron Chancellor,” is perhaps the most significant figure in German history. An able ruler and brilliant and cunning diplomat, during his long political career Bismarck unified Germany and founded the German Empire; Germany was transformed from a weak and loose confederation of states into a powerful united country that would dominate continental Europe for years to come.

Unique Trait

Furor Teutonicus: When a Barbarian encampment is destroyed, there's a 50% chance of gaining 25 Gold and a Barbarian unit joining your side.



Unique Unit

Landsknecht

Replaces Pikeman



Unique Unit

Panzer

Replaces Tank

Greece



It is difficult to overstate the impact that Greece has had upon Western culture and history. Classical Greece has given birth to some of the greatest artists, philosophers, scientists, historians, dramatists and warriors the world has known. Greek warriors and colonists spread their culture throughout the Mediterranean and into the Near and Far East. The heirs to Greece, the Romans, further promulgated Greek thought throughout Europe, and from there it spread across the oceans and into the New World.

Greece and her people are credited with an astonishing number of inventions and discoveries, including the first theatrical performance, work of history, and philosophic treatise. The Greeks provided the West's first recorded sporting event, poem, and building dedicated to theatre. In politics, the Greeks created the world's first known democracy and republic. Greek influence is still all around us: today's doctors still take the Hippocratic Oath, and modern architects still look to classical Greek forms for inspiration. To a large degree, Western civilization is Classical Greek civilization.

Leader: Alexander the Great (356 – 323 BC)



Alexander the Macedonian is unquestionably one of the great warlords of all time. In 17 short years he marched his army to victory after victory across Europe, Asia, Africa and the Middle East, conquering every civilization he could reach. Alexander's conquests allowed Hellenic culture to spread across most of the known world, and Greek would become the language of culture, art and science for centuries to come.

With the exception perhaps of one or two religious leaders, no single man has had such a great effect upon western civilization as did Alexander the Great.

Unique Trait

Hellenic League: *City-State influence degrades half as slowly as normal, and it recovers at twice the speed as for other civilizations.*



Unique Unit

Companion Cavalry

Replaces Horseman



Unique Unit

Hoplite

Replaces Spearman

India



The Republic of India is the second most populous country in the world and the largest democracy. A land of contrasts, India contains great wealth and grinding poverty. It possesses high-tech cities and primitive villages. In it one can find beauty and squalor, hope and despair. It is one of the oldest civilizations on the planet, and a people of deep faith and boisterous energy. Having emerged from the shadow of Great Britain and survived a wrenching loss of the people and lands that comprise Pakistan, India is once again assuming its rightful place as one of the world's great powers.

Leader: Gandhi (1869 – 1948 AD)



Mohandas Gandhi was an Indian patriot who led India's nonviolent independence movement against British Imperial rule in the early to mid-twentieth century. He pioneered "satyagraha," or resistance to tyranny through mass civil disobedience, a ploy used to great effect against the British raj. Today Gandhi is considered to be one of the great figures in human history. He is recognized as a courageous and tireless champion for justice and moral behavior, in South Africa fighting just as hard for the rights of other downtrodden people as he did for fellow Indians. He is also acknowledged as a brilliant political leader who organized a successful independence campaign against one of the most powerful empires the world has ever seen. Of him, Martin Luther King said, "Christ gave us the goals and Mahatma Gandhi the tactics".

Unique Trait

Population Growth: *Unhappiness from number of Cities is doubled, and Unhappiness from total population is halved. (Build fewer, bigger cities!)*



Unique Unit

War Elephant

Replaces Chariot Archer



Unique Building

Mughal Fort

Replaces Castle

Iroquois



According to tradition the Iroquois Confederation came into being around AD 1570. The Confederation was a union of five (later six) Native American tribes. With a population that probably never exceeded 20,000, lacking a written language and possessing no manufacturing base at all, for two centuries the Iroquois managed to hold their own against the French, English, Dutch, and later Colonial Americans, proving themselves to be some of the most accomplished irregular fighters in history.

Leader: Hiawatha (c. 1450?)



Hiawatha (or “Ayonwentah”) is the legendary chief of the Onondaga Indians who, with the equally-legendary Chief Dekanawidah, formed the Iroquois Confederacy. Little is known about Hiawatha the man; according to Iroquois tradition he taught the people agriculture, navigation, medicine, and the arts, using his great magic to conquer all of man's supernatural and natural enemies. Hiawatha is also believed to have been a skilled orator who

through his honeyed words persuaded the five tribes — Cayugas, Onondagas, Oneidas, Senecas, and Mohawks — to form the Five Nations of the Iroquois.

What little the West knows about Hiawatha is usually seen through the prism of Henry Wadsworth Longfellow's remarkable epic poem, *Song of Hiawatha*.

Unique Trait

The Great Warpath: *Units may move through Forest and Jungle tiles as if they were roads when in friendly territory.*



Unique Unit

Mohawk Warrior

Replaces Swordsman



Unique Building

Longhouse

Replaces Workshop

Japan



The islands of Japan are born of the unimaginable violence of plate tectonics, arising as the Pacific Plate is ground beneath the Eurasian Plate. The result is a mountainous land of great beauty and peril, where the people live and thrive in a narrow corridor between volcano and sea.

For much of its history, Japan was divided into many small kingdoms which expended huge quantities of time, energy and effort warring with each other. Betrayal was common, as was deceit, backstabbing, and cold-blooded assassination. The violence would lead to the rise of the Samurai professional warrior class, would end only when the great Oda Nobunaga and his heirs unified the country in the 16th – 17th centuries.

In the modern era, Japan has survived the unimaginable catastrophe of World War II, nuclear attack and Western occupation, emerging to be one of the great economic and cultural powerhouses of the late 20th – early 21st centuries.

Leader: Oda Nobunaga (1534 – 1582 AD)



Oda Nobunaga was a 16th century Japanese warlord. Both a brilliant general and a cunning politician — as well as an early adopter of new technology — Nobunaga fought and backstabbed his way to domination over nearly half of feudal Japan. His two lieutenants, Toyotomi Hideyoshi and Tokugawa Ieyasu, would complete the job after his death. Nobunaga was a brutal man in a brutal time. But by helping to unify Japan he brought an end to the brutal wars that had been ravishing his country for more than a century.

Unique Trait

Bushido: *Units' attack and defense strengths remain at full, even when the unit is damaged.*



Unique Unit

Samurai

Replaces Longswordsman



Unique Unit

Zero

Replaces Fighter

Ottoman Empire



The Ottoman Empire was born in Anatolia (in modern Turkey) at the start of the 13th century. It expanded into three continents and thrived for some six centuries. At its height, the Ottoman Empire took on all of Europe and beat it. It conquered Persia, Egypt, and North Africa, not to mention a goodly chunk of the Balkans. It destroyed the Byzantine Empire. Although relatively unknown in the West, this mighty empire deserves a place of honor alongside those of Arabia, Great Britain, and indeed Rome.

Leader: **Suleiman the Magnificent** (1494 – 1566 AD)



Suleiman I, known as "The Magnificent," "The Legislator" and "The Grand Turk," was the caliph of Islam and the sultan of the Ottoman Empire, taking the reins of the Turkish kingdom in 1520 and ruling until his death in 1566. During his rule Suleiman greatly expanded the Empire's territory, earning the fear (and grudging admiration) of leaders across Europe, Africa, Asia and the Middle East.

At the time of his death Suleiman was famous across the known world. In Europe he was envied for his unbelievable wealth, his magnificent treasury containing more riches than any other leader had possessed in history. He was admired for his military prowess and respected for his fair treatment of non-Muslim subjects.

Almost everyone — Christian and Muslim alike — agreed that he was fully worthy of the title "The Magnificent."

Unique Trait

Barbary Corsairs: Whenever you destroy a Barbarian naval unit, there's a 50% chance of instead converting it to your side and earning 25 Gold.



Unique Unit

Janissary

Replaces Musketman



Unique Unit

Sipahi

Replaces Lancer

Persia



Born in 559 BC after a successful rebellion against the Medes, the Achaemenian Persian Empire survived and thrived in a dangerous neighborhood for some 200 years. At its height it dominated the land from India to Egypt, from Iran to the Balkans. It was an awkward and ungainly empire, spanning three continents with citizens speaking dozens of different languages. At their best, the Achaemenian kings were lawgivers who treated their subject populations with clemency and fairness, interfering as little as possible with provincial internal policies as long as the subjects behaved themselves. At worst, the Achaemenian kings were incompetent bullying backstabbers.

Whatever else they were, the Achaemenian kings were survivors. Two hundred years is a long time for a single family to remain in power. If they hadn't lived next to Alexander and Philip of Macedon – two of the greatest military leaders in the entire history of the world — they might have remained in power another 100 years. Alexander the Great himself was a brilliant leader and warlord, but his own empire barely survived his death by a year.

Leader: Darius I (550 – 486 BC)



The son of a satrap (governor) of Parthia, Darius I forcibly took the throne of Persia upon the death of Cambyses II in 522 BC. An administrative genius, during his reign Darius reorganized the sprawling Persian empire, greatly increasing its wealth and power. He also implemented many great construction works across Persia. He constructed roads, reorganized the Persian provinces and government, secured the empire's borders, and generally treated

his subjects about as well as or better than anyone in that time. Although not primarily known as a warlord, he fought a number of successful campaigns against both internal and external foes.

Unique Trait

Achaemenid Legacy: *Golden Ages lasts 50% longer. Units receive a movement bonus and a +10% attack and defense strength bonus during a Golden Age.*



Unique Unit

Immortal

Replaces Spearman



Unique Building

Satrap's Court

Replaces Bank

Rome



The Roman Empire is the most remarkable and long-lived political entity in the history of Western Civilization. It was founded around the 8th century BC, and portions of it survived until the 14th century AD. The Romans were great innovators in some areas, and they were not shy about appropriating good ideas they found in other cultures.

The Romans were a warrior people. At the height of their power, the Romans ruled an empire which covered much of England, all of Western Europe, North Africa, Egypt, Greece, and the Middle and Near East. During their long rule of Europe and the Mediterranean, the Romans greatly shaped Western culture, law, art, architecture, religion, language, and warfare.

Leader: Augustus Caesar (63 BC – 14 AD)



Born Gaius Octavius, Augustus would become the first (and possibly greatest) Roman Emperor. He ended a century of civil wars and initiated two hundred years of the Pax Romana (Roman Peace) while overseeing a golden age of Roman literature and culture. During Augustus' long rule Rome flourished and the Empire came to dominate the Mediterranean basin. The policies he put in place kept the Empire running smoothly, so much so that

Rome would continue to rule the entire known world for almost two centuries without any major wars or other significant threats to its survival. Few if any leaders in world history could make the same claim.

Unique Trait

The Glory of Rome: +25% Production bonus when constructing a building (in another city) that already has been constructed in the Capital.



Unique Unit

Ballista

Replaces Catapult



Unique Unit

Legion

Replaces Swordsman

Russia



fascinating civilizations in human history.

As Winston Churchill once said, Russia is a riddle, wrapped in a mystery, inside an enigma. It is a part of Europe and a part of Asia, yet separate from both. It is rich with natural resources, yet its people have historically been grindingly poor. It has been invaded and overrun by Goths, Huns, Mongols, French and Germans, yet remains uniquely Russian. It has been a super-power and a nearly failed state, a monarchy, communist dictatorship and democracy – all within a span of 100 years. Indeed, Russia is one of the most

Leader: Catherine the Great (1729 – 1796 AD)



Catherine the Great ruled Russia during the latter half of the 18th century. She oversaw a great expansion of the Russian empire, adding tens of thousands of square miles of territory through conquest and shrewd diplomacy. A beautiful and intelligent woman, she beguiled and seduced the best minds of Europe, making her court one of the centers of Enlightenment thinking on the Continent. Although born in Germany, Catherine is one of the greatest rulers in Russian history. Like Queen Elizabeth I of England, she proved that a woman could be smart enough and tough enough to lead a great country.

Unique Trait

Mother Russia: Resources provide +1 Production, and Horses, Iron and Uranium deposits are doubled.



Unique Unit

Cossack

Replaces Cavalry



Unique Building

Krepost

Replaces Barracks

Siam



Located in Southeast Asia between Myanmar, Laos, Cambodia and Malaysia, Siam – now Thailand – has a long and storied history. A beautiful and mysterious land of dark forests and ancient mountains, Siam has seen occupation and revolution, flood and famine, and the rise and fall of empires. A romanticized view of Siam persists in the West, largely because of the entertaining and highly inaccurate musical, “The King and I.” The reality is much more interesting and has fewer lovable English governesses civilizing things.

In fact, Siam's greatest triumph may have been its avoidance of European colonial domination, unlike that suffered by every other Southeast Asian country.

Leader: Ramkhamhaeng (1240 – 1298 AD)



In 1278, a prince named “Ramkhamhaeng” inherited the small and unimportant kingdom of Sukhothai. In twenty years, employing a brilliant combination of military genius and shrewd diplomacy, he expanded his country's borders and influence to cover much of Southeast Asia. Ramkhamhaeng is viewed today as a great leader and the first to rule over a united Siam.

Unique Trait

Father Governs Children: *Food and Culture gifts from friendly City-States are increased by 50%.*



Unique Unit

Naresuan's Elephant

Replaces Knight



Unique Building

Wat

Replaces University

Songhai



The Songhai Empire was a civilization that flourished in West Africa during the 15th and 16th centuries. The Songhai first appeared near the city of Gao, which was a vassal of the Malinese Empire. In the early 14th century the Songhai gained independence from the Mali, and over the next two centuries it expanded, eventually becoming the largest empire in African history. Like the Aztec empire, it fell to a relatively small band of invaders armed with markedly superior technology. This is an important lesson for all who play

Civilization: "Never bring a knife to a gunfight. Bring an assault rifle and a stealth bomber."

Leader: Askia (c. 1440 – 1538 AD)



Mohammad ibn Abi Bakr Ture, also known as Mohammad I Askia (reigned 1493–1528), welded the central region of the western Sudan into a single Songhai empire, the largest in African history. Although he fought several military campaigns, he is primarily remembered for reorganizing, modernizing and bringing stability to the Songhai people, and his reign is viewed as a veritable Golden Age in Western Africa.

Unique Trait

River Warlord: Receive double the standard amount of Gold when destroying Barbarian encampments and when pillaging Cities. Embarked units can defend themselves.



Unique Unit

Mandekalu Cavalry

Replaces Knight



Unique Building

Mud Pyramid Mosque

Replaces Temple

United States of America



The United States of America is a world “super-power” (which more-or-less means that it possesses weapons capable of destroying everything on the planet). A relatively young civilization, the United States formed in the 18th century, nearly self-destructed in the 19th century, and became the most powerful and dominant military, technological, cultural and economical civilization in the 20th. One can hardly wait to see what it will become in the 21st.

Leader: George Washington (1732 – 1799 AD)



George Washington was one of a group of remarkable men who lived in the American Colonies in the late eighteenth. Although not as pugnacious as John Adams, as imaginative as Benjamin Franklin or as brilliant as Thomas Jefferson, Washington had the capacity to lead, in war and in peace. He led the Continental Army to victory against extraordinary odds, and by so doing he led his country to independence.

George Washington is known for good reason as the “Father of his country.” Possessing a great steadiness and courage in the face of adversity, he was able to get men to willingly die for him. Without Washington, it's unlikely that the United States would have been born.

Unique Trait

Manifest Destiny: *Increases Unit sight and provides a discount on tile costs.*



Unique Unit

Minuteman

Replaces Musketman



Unique Unit

B17 Bomber

Replaces Bomber

MULTIPLAYER CIVILIZATION V

Multiplayer games let you pit your skills directly against those of other players, rather than just against the computer-controlled AI. Multiplayer games can be accessed from the Main Menu, and may be enjoyed over a LAN (Local Area Network) with friends or with players all the way across the globe.

Multiplayer Menu

From the main menu, select the “Multiplayer” button to navigate to the Multiplayer games options screen.

Local Games



From here, click on the Local Network game option to browse for available LAN (Local Area Network) games. A list of available local games will populate the browser view: click on any of these games to join. If you don't see any games (or none you're interested in) you can click the “Host Game” button to create your own. Click the “Refresh” button to refresh the list of available games at any time.

When you choose to Host a game, you'll be taken to the Setup Multiplayer Game screen. From here you can choose your leader, set the map type and size, and select your game pace. You can also load a previously saved Multiplayer game

(more on that later), or return to the Browser to see the list of available games again. Click on “Start Game” once you've finalized your selections.

From here you'll enter the Staging Room where you can see what leaders everyone has chosen, and whether all the players are ready or not. An AI player will be denoted with the name “AI”, whereas a human player will be denoted using his or her Steam alias.

Note that if two or more players attempt to select the same civ and leader, the game will change the duplicated leader's team color to a new one, as to avoid any possible confusion.

Once all players have clicked “Ready,” the host may click the button “Launch Game” to start up the game.



Internet/Steam Games

Internet Multiplayer games are hosted on Steam through the account the player used during the game's installation.

Auto-Matchmaking and Browsing for Games

Internet games provide the option for auto-matchmaking: after setting your options and choosing the kind of game you'd like to play, Steam will attempt to connect you directly to other players also looking for the same kind of game. If a game of this type exists, you'll be taken directly to the Staging Room where you can pick your civ and leader.

If a game isn't available, you can choose to enter the internet game browser or Host your own game, following the same steps as for a LAN game.



Friends List

Your Steam friends list is available to you when hosting a Multiplayer internet game. While in the Staging Room, you can select a friend from the drop down list and invite them directly to any game you're hosting. They'll receive a notification via Steam's Overlay.

Chat



You can chat with other players both during the setup process and in-game. In the Staging Room screen, you can type to all players using the chat window at the bottom of the screen.

In game, you can choose to either chat with all the players or only with a specific one at a time, allowing for private conversations, trades, and alliances to occur. To bring up the chat panel in-game, click on the “Open Chat” button in the right hand corner of the HUD. You can click on the “Close Chat” button once you’re done to hide the pane from view.

Voice-Over-IP (VOIP) is provided through Steam's Overlay feature, allowing you to talk directly to other players using a microphone.

Hosting, Saving, and Loading Games

When hosting a game, you can save your game's progress and load it up at a later date, especially useful for long-running games which can span longer than a day. From within the Setup Multiplayer Game Screen, click the "Load Game" button to browse your list of saved games.

If for any reason you become disconnected while playing a Multiplayer game, the system will try to reconnect you automatically. If the host of a game leaves (for whatever reason), the game will attempt to migrate the host controls to a different player.



Game and Map Sizes

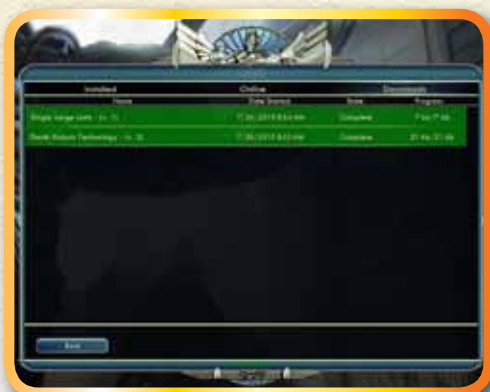
The number of player slots available for a Multiplayer game is limited, by default, by the chosen map size.

Default Game Maps available:

Map Size	Number of Players	Number of City-States
Duel	2	4
Tiny	4	8
Small	6	12
Standard	8	16
Large	10	20
Huge	12	24

If all the available player slots are not filled for a given map, AI players will take over the missing roles.

MODS



Civilization V has been designed from the very beginning with the modders in mind, and it is the easiest and most accessible Civ yet to mod. Even if you aren't interested in making a mod (yet), you can quickly and easily find mods other players have created, and download and install them all from within the game. Playing and creating mods has never been better.

From the Main Menu, select the "Mods" button to navigate to the Mods Screen (be sure to accept the EULA on the way). From here you can choose to begin a game using pre-downloaded and installed mods (more on that later), or browse new available mods.

Browsing, Downloading, and Rating

Click the "Browse Mods" button to bring up the Mods Browser. This will list out all the mods you have previously downloaded and installed, and whether that mod is currently active. Click on the "Enabled" button to enable or disable a downloaded mod. Yes, you can have more than one mod at a time active!

Click on the "Online" button to bring up the online Mod Browser, showing all available mods for download. From here, you can filter available mods by category, search by keyword, or filter by date of upload, number of downloads, or player ranking.

Click on a mod to bring up more detailed information, view screenshots, or choose to download. Downloading mods through the browser is free, and anonymous – you don't need to login to any account to do so.

After playing a mod, you can choose to rate it so that others may be more aware of its awesomeness. Simply click on the "Like" button on any mod's page to rate up that mod. Rating a mod is also anonymous and doesn't require any account information.

XML

The easiest way to get into modding is available to anyone with access to a text editor. If you can type, you can mod. The game's XML (Extensive Markup Language) files hold all the game's nitty-gritty details, like all of Napoleon's trade dialogue or exactly how far an Archer unit can move in one turn. Any of the game's XML files can be easily changed and updated from within any text editor, allowing you to make customizations ranging from how much damage a Warrior can deal to creating whole new civilizations and leaders.



MODBUDDY AND THE WORLD BUILDER SDK



Coming shortly after release, it will be possible to download ModBuddy and the World Builder SDK, the official modding tools for Civ V. This package will allow you to make custom maps and scenarios, change minute behavior of the game's AI, and package up your custom mods so that others can download and enjoy them too. Check back either on Civ V's official web page or on the Steam game page for more information and updates.

ModBuddy and the World Builder SDK will be available for download through Steam. Navigate to the Tools section of the Games tab to download.

Tutorials and Examples

If you're new to modding (or just want some extra help), check out the SDK's folders for extensive tutorials and examples on how to use the powerful new system. Learn from the developers themselves on how best to utilize this new system.

Uploading a Mod

When you've finished a mod and want to show it proudly to the world at large, simply use ModBuddy to upload your mod to the official server. Follow the on-screen instructions on how to package and name your mod.

When uploading, you must give your mod a name, upload between one and three screenshots showing important or cool aspects of your mod, and tag your mod with one to three categories. A unique ID will be assigned to your mod once everything is created.

To upload a mod, you must have a Gamespy account. ModBuddy will prompt you for pre-existing account information, or walk you through the steps required if you need to make one. Gamespy accounts are free.

Mods in Single Player

Click on the "Single Player" button on the Mods menu to bring up the available options for playing a modded game. You can either play a specific custom map, load a saved game, or create a new custom game using mods.

Automatic Mod Updates

The game will automatically check for updates to any mods you have installed which are available through the Mod Browser system. These updates will automatically be downloaded and applied if you have an active internet connection.



CREDITS

FIRAXIS GAMES

Design Team

Original Creator of Civilization

Sid Meier

Designed By

Jon Shafer

Additional Design and Gameplay

Ed Beach

Scott Lewis

Production Team

Producer

Dennis Shirk

Associate Producer

Lisa Miller

Additional Production

Clint McCaul

Michelle Menard

Writers

Michelle Menard

Paul Murphy

Programming Team

Programming Lead

Brian Wade

Systems Lead

Tim Kipp

AI/Gameplay Lead

Ed Beach

Graphics Lead

Dan Baker

Interface Lead

Marc Meyer

Tools Lead

Bart Muzzin

Multiplayer Leads

Jonathan Tanner

Justin Randall

AI/Gameplay Programmers

Scott Lewis

Systems Programmers

Dom Cerquetti

Ken Grey

Greg Osefo

Don Wuenschell

Graphics Programmers

Joshua Barczak

John Kloetzli

Marc Meyer

Kiran Sudhakara

Marek Vojtko

Marc Olano

Multiplayer Programmers

Todd Smith

Modding Programmers

Shaun Seckman

Tools Programmers

Eric Jordan

Scott Ramsey

Sergey Tirapolsky

Additional Programmers

Justin Boswell

Dan Goodman

Katie Hirsch

Steve Houchard

Michelle Menard

Daniel Selnick

Bob Thomas

Art Team

Art Lead

Dorian Newcomb

Animation Supervisor

Chris Hickman

Lead Animator

Alex Kim

Character Lead

Brian Busatti

Structure Lead

Arne Schmidt

Unit Lead

Tom Symonds

Interface Lead

Russell Vaccaro III

Effects Lead

Todd Bilger

Principal Terrain Artist

Steve Egrie

Artists

Aaron Anderson

Jerome J Atherholt

Michael R Bates

Kevin Bradley

Brian Busatti

Greg Cunningham

Taylor Fischer

Nathan Gordon

Arthur Gould

Jason Guy

David Jones

Suzana Kilic

Alex Kim

Jonathan Mack

Gregory Marlow

Ryan Murray

Jason Pastrana

Dan Perry

Brian Theodore

Concept Artists

Marc Hudgins

Sang Han

Additional Art

Erik Ehoff

Ed Lynch

Piero Macgowan

Jack Snyder

Art Wiesen

Opening Cinematic

Digic Pictures

Opening Cinematic Script

Paul Murphy

Audio Team

Audio Department Manager

Michael Curran

Sound Designers

Michael Curran

Paul Heitsch

Geoff Knorr

Roland Rizzo

Ian Smith

Music

Michael Curran

Geoff Knorr

Additional Music

Paul Heitsch

Roland Rizzo

Ian Smith

Lyric Settings

Michelle Menard

Audio Programmers

Dom Cerquetti

Ken Grey

Don Wuenschell

Quality Assurance Team

QA Manager

Scott Wittbecker

QA Lead

Grant Frazier

Testers

Michael Argo

Justice Avery

Matthew Beach

David Cerny

Daron Carlock

Jim Crawley

Pat Glascoe

Mike Lemon

Patrick Miller

Frankenstein Test Group

Abyss

ainwood

AlazkanAssassin

arcan

bernie14

Bob Thomas

bobT

C.Roland

ChrisWithers

claudelu

colonelmustard

dacole

Dale

DanQ

danthrax

Dominae

ekmek

freakmon

GeneralMatt

Gogf

Grey Fox

Gyathaar

Hugin

Impaler[Wrg]

jdog5000

jmoskie

jobe

Kael

karadoc

KillerClowns

Locutus

loki1232

Lord_Phan

magnus333

Meredith

Ming

monoha

Nikis-Knight

Nikolai

Nolan

notyoueither

OgreBG

Opera

Peachrocks

Pfeffersack

Primax

rah

robin-uiowa

Scott-DTA

seZereth

SirPartyMan

snafusmith

snoopy369

Solver

TheMeInTeam

totallycres

Valkrionn

Velociryx

vondrack

WarningU2

Wilboman

xienwolf

yin26

Ztaesek

Firaxis Management

CEO / President

Steve Martin

Creative Director

Sid Meier

Studio Art Directors

Seth Spaulding

Steve Ogden

Director of Software Development

Steve Meyer

Executive Producer

Barry Caudill

Director of Marketing

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Marketing Associate

Peter Murray

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Shawn Kohn

Office Manager

Donna Milesky

IT Manager

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IT Technician

Matt Baros

Special Projects

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AMD Support

Steve Bell

Bill Bilodeau

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Nvidia Support

Evan Hart

Brian Harvey

Intel Support

Yannis Minadakis

Michael Katz

Aaron Davies

Valve Support

John Bartkiw

Chris Boyd

Neil Kaethler

Alfred Reynolds

Jason Ruymen

Gamespy

Drew Curby

Andrew Textor

Fork

VFX Powered by Fork Particle

Microsoft Support

Chuck Walbourne

Aerial Photographer

Steve Lowther

Special Thanks

Joanne Miller

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Christoph Hartmann

C.O.O.

David Ismailer

VP, Product Development

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Director of Product Development

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Senior Manager of Creative Production

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Producer

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Assistant Producer

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Casey Cameron

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Director of Marketing

Tom Bass

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Web Designer

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Community Manager

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Marketing Production Assistant

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Video Editor

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Jr Video Editor

Michael Howard

Licensing/Operations Specialist

Xenia Mul

Director In-game Media, Promotions and Partnerships

Shelby Cox

Associate Manager of Partner Marketing

Dawn Burnell

2K Quality Assurance**VP of Quality Assurance**

Alex Plachowski

Quality Assurance Test Manager (Projects)

Grant Bryson

Compliance Manager

Alexis Ladd

Lead Tester

Griffin Funk

Lead Tester (Support Team)

Sean Manzano

Andrew Webster

Senior Tester

Ruben Gonzalez

Sara Lane

Justin Waller

Quality Assurance Team

Rick Alvarez

Chad Bert

Steve Capri

Ariel Ceballos

Alex Coleman

John Dickerson

Keith Doran

Anthony Franco

Andres Garcia

Ricky Hernandez

Jonathan Keiser

Davis Krieghoff

Jason Mitchell

Tyler Muelrath

Matthew Porter

Matt Priddy

Matt Proudfoot

Angie Ricci

Dio Rochino

Jess Sparks

Dung Trinh

Special Thanks

Lori Durrant

Todd Ingram

Chris Jones

Jana Kubanski

Eric Lane

Merja Reed

Jay Ruiz

Rick Shawalker

Madeleine St. Marie

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International Marketing Manager

Lia Tsele

International Product Manager

Warner Guinée

International PR Manager

Emily Britt

International PR Executive

Matt Roche

Licensing Director

Claire Roberts

Web Content Manager

Martin Moore

International Marketing Assistant

Tom East

2K International Product Development**International Producer**

Sajjad Majid

Localization Manager

Jean-Sebastien Ferey

Assistant Localization Manager

Arsenio Formoso

External Localization Teams

Around the Word

Effective Media

Synthesis International Srl

Synthesis Iberia

Localization tools and support provided by XLOC Inc.

2K International Quality Assurance

QA Manager

Ghulam Khan

QA Supervisor

Sebastian Frank

Hugo Sieiro

Mastering Engineer

Wayne Boyce

Localization QA Project Lead

Lena Brenk

Localization QA Technicians

Anthony Busselier

Alba Loureiro

Andreas Strothmann

Antonio Grasso

Fabrizio Mariani

Florian Genthon

Giovanni De Caro

Javier Vidal

Jose Minana

Karim Cherif

Luigi Di Domenico

Oscar Pereira

Stefan Rossi

Tirdad Nosrati

Design Team

James Crocker

Tom Baker

2K International Team

Agnès Rosique

Alex Bickham

Ben Seccombe

David Halse

Fabrice Poirier

Jan Sturm

Jean-Paul Hardy

Luis De La Camara Burditt

Olivier Troit

Sandra Melero

Simon Turner

Snezana Stojanovska

Stefan Eder

Take-Two International Operations

Anthony Dodd

Martin Alway

Cat Findlay

Nisha Verma

Robert Willis

Denisa Polcerova

2K Shanghai

General Manager

Julien Bares

Production Director

Liu Jing

Producers

Liu Shan

Ren Ye Qing

Art Director

Yi Zheng

Senior Artist

Li Ying Jun

Lead Animator

Xu Jie

Animators

Yin Ji

Shen Yi Xin

Wu Xiao

Tang Yi Fan

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Civilization V music credits,
please visit: www.civilization5.com/musiccredits**

ORIGINAL SCORE RECORDING

Philharmonic of Prague

Conductor - Andy Brick

Concertmasters - Rita

Čepurčenko & Miloš Jahoda

Orchestral Music Contractor and

Producer - Petr Pycha

Sound Engineer - Jan Kotzmann

Assistant Engineer - Cenda

Kotzmann

Librarian - Tomáš Kirschner

Chorus Master - Stanislav Mistr

First Violin

Rita Čepurčenko

Costin Anghelescu

Václav Dvořák

František Eret

Petr Typolt

Petr Hlaváč

Anna Jírovcová

Pavel Kutman

David Šroubek

Jiří Škoda

Eva Rohanová

Václav Riedlbauch

Hana Šimečková

Hana Kutmanová

David Voráč

Lucie Hůlová

Second Violin

Libor Kaňka

Martin Pachner

Ludvík Sklenář

Jaroslav Kořán

Miroslav Kosina

Vlastimil Zeman

Anna Vaňková

Jindřich Vácha

Jiljí Teringer

Milan Machačka

Kateřina Gemrotová
Martin Šandera
Vlastimil Zeman
Martin Tupý

Viola

Zdeněk Zindel
Vladimír Bažant
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Oldřich Smola jun.
Alan Melkus
Jan Nykrýn
Stanislav Kodad
Eduard Vaníček
Vladimír Zajačik
Jiří Zajíc
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Kamila Puteaney

Cello

Miloš Jahoda
Jaroslav Matějka
Pavel Běloušek
Richard Žemlička
Petr Malíšek
Marek Elznic
Věra Anýžová
Petr Šporcl
Roman Stehlík
David Havelík

Bass

Martin Zelenka
Michal Novák
Jan Buble
Lukáš Verner
Václav Hoskovec
Aleš Benda
Radomír Žalud
Jan Prokop

Flute

Robert Heger
Martin Klimánek

Piccolo

Jiří Skuhra

Oboe

Liběna Sequardtová
Jan Hodánek

English Horn

Monika Boušková

Clarinet

Jan Mach
Vlastimil Mareš

Basclarinet

Miroslav Plechatý

Bassoon

Svatopluk Čech
Lumír Vaněk

DoubleBassoon

Petr Němeček

Horns

František Langweil
Pavel Douba
Tomáš Kirschner
Petr Hernych

Trumpet

Marek Zvolánek
Svatopluk Zaal
Jan Fišer

Trombone

Jiří Novotný
František Zazvonil

Basstrombone

Petr Čihák

Tuba

Karel Malimánek

Harp

Stáňa Ramešová

Tympani

Svatopluk Čech ml.

Percussion

Miroslav Kejmar ml.
Jiří Svoboda
Ivan Hoznedr

Sopranos

Gražina Biernot
Andrea Soukupová
Marie Matějková
Martina Kritznerová
Věra Váchová
Romana Hýžová
Kateřina Kotešovicová
Darina Glatzová

Altos

Dana Sedmidubská
Štěpánka Pýchová
Michaela Štefáčková
Marie Šmaterová
Jana Dvořáková
Jana Drábková
Ludmila Hudečková
Romana Soukupová

Tenors

Petr Klíma
Bronislav Palowski
Tomáš Hinterholzinger
Luboš Moravec
Tomáš Fiala
Dušan Růžicka
Viktor Byček
Michal Foršt

Basses

Michal krůšek
Tomáš Hanzl
Miroslav Vácha
Martin Vacula
Wouter Tukker
Jan Socha
Vladimír Hambálek
Jiří Sejpál

Actors

Narrator – Morgan Sheppard
Son – Rick Pasqualone
Cultural Advisor – Vanessa Aspillaga
Economic Advisor – Nancy Linari
Military Advisor – RF Daley

Science Advisor – John Bentley
Alexander the Great – Miró de Monteseppia

Askia Mohammad I – Mori Majid
Augustus Caesar – Émile Khor-doc

Catherine the Great – Svetlana Migdissova

Darius I – Yassin Alsalman

Gandhi – Avtar Sandhu

George Washington – Marcel Jeanin

Harun Al-Rashid – Laith Marouf

Hiawatha – Kanentokon Hemlock

Montezuma – Alfredo Camacho

Napoléon Bonaparte – Greg Gobbi

Oda Nobunaga – Ryosuke Aoike

Otto Van Bismark – Heinz Becker

Queen Elizabeth – Julia Lenardon

Ramesses II – George Saad

Ramkhamhaeng – Thon Kong-kaewpaisarn

Suleiman the Magnificent – Onur Aydemir

Wu Zetian – Rachel Lei Xie

Wave Generation, Inc.

Original Dialog Mixers, POP Sound

Tim West

Tim Hoogenakker

Dante Fazio

Original Dialog Recordists, POP Sound

Brett Rothfeld

Anthony Vanchure

Stephen Selvaggio

Dialog Editor

Garrett Montgomery

Original Dialog Mixers, Heavy Melody

Dave Fraser

Contemporary North American Flutes provided by Ken Light, Amon Olorin Flutes

Music Mastery

Scott Metcalfe, Mind's Ear

Fox Studios

Rick Fox

Michael Weber

Tim Schmidt

Cal Halter

Keith Fox

Dustin Smith

Joe Schmidt

Special Thanks

Daniel Einzig

Christopher Fiumano

Jenn Kolbe

David Boutry

Ryan Dixon

Michael Lightner

Gail Hamrick

Sharon Hunter

Kate Ryan

Michele Shadid

2K IS Team

Jordan Katz

David Gershik

Take-Two Sales Team

Take-Two Channel Marketing Team

Seth Krauss

Take-Two Legal Team

Jonathan Washburn

Cindi Buckwalter

Alan Lewis

Meg Maise

Siobhan Boes

Jason Bergman

Brooke Grabrian

Thomas M. Olano

Access Communications

KD&E

VG Market

Rokkan

Art Machine

RDA

CivAnon.org

Gwendoline Oliviero



VFX Powered by Fork Particle



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CHARTS AND TABLES

POLICIES

Policy Name	Branch	Required Era	Required Policies	Effect
Tradition				
Tradition	Tradition	None	None	+1 Food per turn in the Capital City
Aristocracy	Tradition	None	None	+33% Production when building Wonders
Landed Elite	Tradition	None	Aristocracy, Oligarchy	+33% growth rate in Capital City
Legalism	Tradition	None	None	-33% Unhappiness production in Capital City
Monarchy	Tradition	None	Oligarchy	Gold cost for buying land reduced by 50%
Oligarchy	Tradition	None	None	+33% combat strength to units within the empire's borders
Liberty				
Liberty	Liberty	None	None	+50% construction rate of Settlers
Citizenship	Liberty	None	None	+25% construction rate of Workers
Collective Rule	Liberty	None	None	New cities start with 50% Food necessary to gain a second citizen
Meritocracy	Liberty	None	Citizenship	+1 Happiness for each city connected to the Capital with a trade route
Representation	Liberty	None	Citizenship	+1 Culture in every City
Republic	Liberty	None	Collective Rule	+1 Production in every City
Honor				
Honor	Honor	None	None	+25% combat bonus versus Barbarians, and a notification sent when new Barbarian Camps are spawned within revealed territory
Discipline	Honor	None	None	+15% combat strength for units in a tile next to other military units
Military Caste	Honor	None	Discipline	-1 Unhappiness for each City with a Garrison
Military Tradition	Honor	None	Warrior Code	Military Units gain double XP from combat
Professional Army	Honor	None	Military Caste	Gold cost of Upgrading Military Units reduced by 50%
Warrior Code	Honor	None	None	A Great General appears outside the Capital City
Piety				
Piety	Piety	Classical Era	None	+2 to Happiness
Free Religion	Piety	Classical Era	Mandate of Heaven, Reformation	Gain 2 free Policies
Mandate of Heaven	Piety	Classical Era	None	50% of excess Happiness added to the amount of Culture per turn
Organized Religion	Piety	Classical Era	None	Amount of Happiness required to start a Golden Age reduced by 25%

Policy Name	Branch	Required Era	Required Policies	Effect
Reformation	Piety	Classical Era	Organized Religion	Immediately enter a 6-turn Golden Age
Theocracy	Piety	Classical Era	Organized Religion	-20% Unhappiness produced by Population in non-occupied Cities
Patronage				
Patronage	Patronage	Medieval Era	None	Influence with City-States degrades 25% slower than normal
Aesthetics	Patronage	Medieval Era	None	Minimum Influence level with all City-States is 20
Cultural Diplomacy	Patronage	Medieval Era	Scholasticism	Quantity of Resources gifted by City-States increased by 100%. Happiness from gifted Luxuries increased by 50%.
Educated Elite	Patronage	Medieval Era	Aesthetics, Scholasticism	Allied City-States will occasionally gift you Great People
Philanthropy	Patronage	Medieval Era	None	+25% more Influence gained from Gold gifts to City-States
Scholasticism	Patronage	Medieval Era	Philanthropy	Allied City-States provide a Science bonus equal to 33% of what they provide for themselves
Commerce				
Commerce	Commerce	Medieval Era	None	+25% Gold output in the Capital City
Mercantilism	Commerce	Medieval Era	Trade Unions	Purchasing items in cities requires 25% less Gold
Merchant Navy	Commerce	Medieval Era	Naval Tradition	+3 Production in all coastal Cities
Naval Tradition	Commerce	Medieval Era	None	+1 Movement and +1 Sight for Naval combat units
Protectionism	Commerce	Medieval Era	Mercantilism	+1 Happiness from each Luxury Resource
Trade Unions	Commerce	Medieval Era	None	Maintenance paid on Roads and Railroads reduced by 20%
Rationalism				
Rationalism	Rationalism	Renaissance Era	None	Immediately enter a 5-turn Golden Age
Free Thought	Rationalism	Renaissance Era	Secularism	+1 Science from every Trading Post
Humanism	Rationalism	Renaissance Era	Sovereignty	+1 Happiness from every University
Scientific Revolution	Rationalism	Renaissance Era	Free Thought	Gain 2 free Technologies
Secularism	Rationalism	Renaissance Era	None	+2 Science from every Specialist
Sovereignty	Rationalism	Renaissance Era	None	+15% Science while the empire is Happy
Freedom				
Freedom	Freedom	Renaissance Era	None	-50% Unhappiness produced from Specialist Population
Civil Society	Freedom	Renaissance Era	None	-50% Food consumption by Specialists
Constitution	Freedom	Renaissance Era	None	Culture doubled in all Cities with a World Wonder
Democracy	Freedom	Renaissance Era	Civil Society	+50% Great People production rate
Free Speech	Freedom	Renaissance Era	Constitution	-25% of Policy Culture costs
Universal Suffrage	Freedom	Renaissance Era	None	+33% City Combat Strength
Order				

Policy Name	Branch	Required Era	Required Policies	Effect
Order	Order	Industrial Era	None	+25% construction rate of Buildings
Communism	Order	Industrial Era	Planned Economy	+5 Production per City
Nationalism	Order	Industrial Era	None	+25% attack bonus when fighting in friendly territory
Planned Economy	Order	Industrial Era	Socialism	-50% Unhappiness from number of Cities
Socialism	Order	Industrial Era	None	-10% Gold maintenance cost of Buildings
United Front	Order	Industrial Era	None	Other players' City-State Influence Points decrease 33% faster
Autocracy				
Autocracy	Autocracy	Industrial Era	None	-33% Gold Maintenance cost for Units
Fascism	Autocracy	Industrial Era	Populism, Militarism	Quantity of Strategic Resources produced increases by 100%
Militarism	Autocracy	Industrial Era	None	Gold cost of purchasing units reduced by 33%.
Police State	Autocracy	Industrial Era	Militarism	-50% Unhappiness in Occupied Cities
Populism	Autocracy	Industrial Era	None	Wounded military units inflict +25% more damage
Total War	Autocracy	Industrial Era	Police State, Fascism	For 20 turns, all Military Units receive a 33% attack bonus

TERRAIN

Terrain	Food	Production	Gold	Combat Modifier	Movement Cost	Possible Features Found	Possible Resources Found
Base Terrain							
Coast	1	0	1	0%	1	Ice	Fish, Whales, Pearls
Desert	0	0	0	-33%	1	Oasis, Flood Plains	Iron, Oil, Aluminum, Uranium, Gold, Silver, Gems, Marble, Cotton, Incense
Grassland	2	0	0	-33%	1	Jungle, Marsh	Iron, Horses, Coal, Uranium, Cattle, Gold, Gems, Marble, Cotton, Wine
Hill	0	2	0	+25%	2	Forest, Jungle	Iron, Coal, Aluminum, Uranium, Deer, Gold, Silver, Gems, Marble, Sheep
Mountain	0	0	0	+25%	Impassable	None	None
Ocean	1	0	1	0%	1	Ice	Oil
Plains	1	1	0	-33%	1	Forest	Iron, Horses, Coal, Aluminum, Uranium, Wheat, Gold, Gems, Marble, Ivory, Cotton, Wine, Incense
Snow	0	0	0	-33%	1	None	Iron, Oil, Uranium
Tundra	1	0	0	-33%	1	Forest	Iron, Horses, Oil, Aluminum, Uranium, Deer, Silver, Gems, Marble, Furs

TERRAIN FEATURES

Feature	Food	Production	Gold	Combat Modifier	Movement Cost	Possible Resources Found
Terrain Features						
Barringer Crater	0	2	3	0%	Impassable	None
Fallout	-3	-3	-3	-33%	2	None
Flood Plains	2	0	0	-33%	1	Wheat, Sugar
Forest	1	1	0	+25%	2	Uranium, Deer, Furs, Dyes, Silk
Grand Mesa	0	2	3	0%	Impassable	None
Great Barrier Reef	0	2	3	0%	Impassable	None
Ice	0	0	0	0%	Impassable	None
Jungle	1	-1	0	+25%	2	Oil, Uranium, Bananas, Gems, Dyes, Spices
Krakatoa	0	2	3	0%	Impassable	None
Marsh	-1	0	0	-33%	2	Oil, Uranium, Sugar
Mt. Fuji	0	2	3	0%	Impassable	None
Oasis	3	0	1	-33%	1	None

KEYBOARD SHORTCUTS

Action	Hotkey
General Hotkeys	
Civilopedia	F1
Economic Info	F2
Military Info	F3
Diplomacy Info	F4
Tech Screen	F5
Social Policies Screen	F6
Notification Log	F7
Victory Progress	F8
Demographics	F9
Strategic View	F10
Quick Save	F11
Quick Load	F12
Hex Grid	G
Menu	Esc
End Turn	Enter
Next Unit	Period
Previous Unit	Comma
Zoom out	-
Zoom in	+
Capital City View	Insert
Capital City View	Home
Capital City View	End
Zoom in	Page Up
Zoom out	Page Down
Show resource icons	Ctrl-R
Yield icons	Ctrl-Y
Game Options	Ctrl-O
Save	Ctrl-S
Load	Ctrl-L
End Turn	Ctrl Space
General Units	
Move Mode	M
Explore (Automated)	E
Alert	A
Sleep	F
Do Nothing	Spacebar

Action	Hotkey
Delete the Unit	Delete
Attack	Ctrl-A
Ranged Attack	B
Set Up Artillery	S
Fortify until healed	H
Air Units	
Rebase Mode	Alt-R
Air Strike Mode	S
Air Sweep	Alt-S
Intercept	I
Nuke Mode	N
Civilian Units	
Found City	B
Build Improvements (Automated)	A
Construct a Road	R
Construct a Railroad	R
Route to Mode	Alt-R
Remove Jungle	Alt-C
Clear a Marsh	Alt-C
Construct a Farm	I
Construct a Trading Post	T
Construct a Camp	H
Construct a Farm	I
Construct a Mine	N
Construct a Plantation	P
Construct a Quarry	Q
Construct a Pasture	P
Construct a Fort	Ctrl-F
Construct a Well	O
Create Fishing Boats	F
Create Offshore Platform	O
Remove Forest	Alt-C
Cancel Last Mission	Backspace
Construct a Lumber Mill	L
Citadel	C

UNITS

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Ancient Era Units									
Archer	70	Archery	4	6	2	2	None	Archery	May not melee attack
Brute	20	Melee	6	N/A	N/A	2	None	None	Barbarian replacement for the Warrior
Chariot Archer	60	Mounted	3	6	2	4	Horses	The Wheel	May not melee attack, rough terrain penalty, and no defensive bonuses
Galley	50	Naval	5	3	2	3	None	None	Barbarian vessel, may not melee attack, may not enter deep ocean
Hoplite	60	Melee	9	N/A	N/A	2	None	Bronze Working	Bonus vs Mounted (100), Greek Unique Unit
Immortal	60	Melee	8	N/A	N/A	2	None	Bronze Working	Bonus vs Mounted (100), Heals at Double Rate, Persian Unique Unit
Jaguar	40	Melee	6	N/A	N/A	2	None	None	Combat Bonus in Jungle (50), Heals 2 Damage if kills a Unit, Aztec Unique Unit
Scout	25	Recon	4	N/A	N/A	2	None	None	Ignores Terrain Cost
Settler	89	Civilian	N/A	N/A	N/A	2	None	None	Can found a new City
Spearman	50	Melee	7	N/A	N/A	2	None	Bronze Working	Bonus vs Mounted (100)
Trireme	60	Naval	6	4	2	4	None	Sailing	May not melee attack, cannot enter deep ocean
War Chariot	60	Mounted	3	6	2	5	None	The Wheel	May not melee attack, rough terrain penalty, and no defensive bonuses, Egyptian Unique Unit
War Elephant	80	Mounted	6	8	2	3	None	The Wheel	May not melee attack, no defensive bonuses, Indian Unique Unit
Warrior	40	Melee	6	N/A	N/A	2	None	None	None
Work Boat	30	Civilian	N/A	N/A	N/A	4	None	Sailing	May create Fishing Boats and Offshore Platforms
Worker	70	Civilian	N/A	N/A	N/A	2	None	None	May create and repair land-based Improvements

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Classical Era Units									
Ballista	100	Siege	4	18	2	2	Iron	Mathematics	May not melee attack, bonus vs cities (10), no defensive bonuses, limited visibility, must set up to range attack, Roman Unique Unit
Catapult	100	Siege	4	14	2	2	Iron	Mathematics	May not melee attack, bonus vs cities (10), no defensive bonuses, limited visibility, must set up to range attack
Companion Cavalry	80	Mounted	14	N/A	N/A	5	Horses	Horseback Riding	No defensive bonuses, can move after attacking, combat likely to produce Great Generals, Greek Unique Unit
Horseman	80	Mounted	12	N/A	N/A	4	Horses	Horseback Riding	No defensive bonuses, can move after attacking
Legion	90	Melee	13	N/A	N/A	2	Iron	Iron Working	Roman Unique Unit
Mohawk Warrior	80	Melee	11	N/A	N/A	2	Iron	Iron Working	Iroquois Unique Unit
Swordsman	80	Melee	11	N/A	N/A	2	Iron	Iron Working	None
Medieval Era Units									
Camel Archer	150	Mounted	10	15	2	3	Horses	Chivalry	No defensive bonuses, can move after attacking, may not melee attack, Arabian Unique Unit
Cho-Ko-Nu	120	Archery	6	10	2	2	None	Machinery	May not melee attack, may attack twice, Chinese Unique Unit
Crossbowman	120	Archery	6	12	2	2	None	Machinery	May not melee attack
Knight	150	Mounted	18	N/A	N/A	3	Horses	Chivalry	No defensive bonuses, weak to Pikemen, and can move after attacking
Landsknecht	50	Melee	10	N/A	N/A	2	None	Civil Service	Bonus vs Mounted (100), German Unique Unit
Longbowman	120	Archery	6	12	2	2	None	Machinery	May not melee attack, +1 Range, British Unique Unit
Longswordsman	150	Melee	18	N/A	N/A	2	Iron	Steel	None
Mandekalu Cavalry	150	Mounted	18	N/A	N/A	3	Horses	Chivalry	No defensive bonuses, can move after attacking, bonus vs Cities (30), Songhai Unique Unit

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Naresuan's Elephant	150	Mounted	22	N/A	N/A	2	None	Chivalry	No defensive bonuses, can move after attacking, bonus vs Mounted (50), Siamese Unique Unit
Pikeman	100	Melee	10	N/A	N/A	2	None	Civil Service	Bonus vs Mounted (100)
Samurai	150	Melee	18	N/A	N/A	2	Iron	Steel	+20% Combat Strength when fighting in open terrain, combat very likely to produce Great Generals, Japanese Unique Unit
Trebuchet	170	Siege	6	20	2	2	Iron	Physics	May not melee attack, bonus vs cities (10), no defensive bonuses, limited visibility, must set up to range attack
Renaissance Era Units									
Cannon	250	Siege	10	26	2	2	None	Chemistry	May not melee attack, bonus vs cities (10), no defensive bonuses, limited visibility, must set up to range attack
Caravel	100	Naval	10	7	2	6	None	Astronomy	Can enter rival territory, +2 extra Sight, may not melee attack
Cavalry	260	Mounted	25	N/A	N/A	3	Horses	Military Science	Penalty vs Mounted, no defensive bonuses, can move after attacking
Cossack	260	Mounted	25	N/A	N/A	3	Horses	Military Science	Penalty vs Mounted, no defensive bonuses, can move after attacking, combat bonus in open terrain, Russian Unique Unit
Frigate	160	Naval	20	15	2	5	Iron	Navigation	May not melee attack
Janissary	120	Gunpowder	16	N/A	N/A	2	None	Gunpowder	Heals all damage if destroys a unit, +25% combat bonus when attacking, Ottoman Unique Unit
Lancer	220	Mounted	22	N/A	N/A	4	Horses	Metallurgy	Penalty on Defense, no defensive bonuses, can move after attacking
Minuteman	120	Gunpowder	16	N/A	N/A	2	None	Gunpowder	All terrains cost 1 to move, American Unique Unit
Musketeer	120	Gunpowder	20	N/A	N/A	2	None	Gunpowder	French Unique Unit
Musketman	120	Gunpowder	16	N/A	N/A	2	None	Gunpowder	None

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Rifleman	200	Gunpowder	25	N/A	N/A	2	None	Rifling	None
Ship of the Line	140	Naval	20	17	2	5	Iron	Navigation	May not melee attack, +1 extra Sight, British Unique Unit
Sipahi	220	Mounted	22	N/A	N/A	5	Horses	Metallurgy	Penalty on Defense, no defensive bonuses, can move after attacking, no movement cost to pillage, +1 Extra Sight, Ottoman Unique Unit
Industrial Era Units									
Anti-Aircraft Gun	300	Gunpowder	32	N/A	2	2	None	Radio	Interception (100), Bonus vs Aircraft (100), Bonus vs Helicopters
Anti-Tank Gun	300	Gunpowder	32	N/A	N/A	2	None	Replaceable Parts	Bonus vs Tanks
Artillery	420	Siege	16	32	3	2	None	Dynamite	Indirect Fire, may not melee attack, Bonus vs Cities (10), no defensive bonuses, must set up to range attack, limited visibility
Battleship	500	Naval	40	32	3	4	Oil	Telegraph	Indirect Fire, may not melee attack
Carrier	520	Naval	20	N/A	N/A	5	Oil	Flight	Carries up to 3 Aircraft Units
Destroyer	380	Naval	25	22	2	8	None	Electricity	Indirect Fire, +3 Extra Sight, can see Submarines, Interception (40), Bonus vs Submarines (100), may not melee attack
Fighter	420	Air	N/A	50	8	N/A	Oil	Flight	Interception (100), Air Sweep, weak against ranged attacks, Air Recon, Bonus vs Helicopters
Foreign Legion	300	Gunpowder	36	N/A	N/A	2	None	Replaceable Parts	+20% Combat bonus outside friendly territory, French Unique Unit
Infantry	300	Gunpowder	36	N/A	N/A	2	None	Replaceable Parts	None
Ironclad	220	Naval	25	18	2	4	Coal	Steam Power	May not enter deep ocean, may not melee attack

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Panzer	450	Armored	60	N/A	N/A	5	Oil	Combustion	Penalty attacking Cities, no defensive bonuses, limited visibility, can move after attacking, German Unique Unit
Submarine	380	Naval	15	60	3	5		Refrigeration	Is invisible to other units, can see submarines, can enter rival territory, may enter ice tiles, may not melee attack
Tank	450	Armored	50	N/A	N/A	4	Oil	Combustion	Penalty attacking Cities, no defensive bonuses, limited visibility, can move after attacking,
Zero	420	Air	50	N/A	8	N/A	Iron, Oil	Flight	Interception (100), Air Sweep, weak against ranged attacks, Air Recon, Bonus vs Fighters, Bonus vs Helicopters, Japanese Unique Unit
Modern Era									
Atomic Bomb	850	Bomb	N/A	N/A	10	N/A	Uranium	Nuclear Fission	Evasion (50), does massive damage to Cities and Units within blast radius
B17	520	Air	N/A	60	10	N/A	Oil	Radar	Penalty vs Naval, -50% damage from interceptions, +25% combat strength vs Cities, American Unique Unit
Bomber	520	Air	N/A	60	10	N/A	Oil	Radar	Penalty vs Naval
Guided Missile	200	Bomb	N/A	70	8	N/A	None	Satellites	Cannot be intercepted.
Helicopter Gunship	450	Air	50	N/A	N/A	6	Aluminum	Rocketry	Ignores terrain costs, hovering unit, bonus vs Tanks, no defensive bonuses, unable to capture cities
Jet Fighter	600	Air	N/A	70	10	N/A	Aluminum	Lasers	Interception (100), Air Sweep, weak against ranged attacks, Air Recon, Bonus vs Helicopters
Mechanized Infantry	440	Gunpowder	50	N/A	N/A	4	None	Electronics	None
Missile Cruiser	520	Naval	40	25	3	7	Aluminum	Robotics	Indirect Fire, can carry 3 missiles, interception (100), may not melee attack

Unit Name	Cost	Combat Type	Combat Strength	Ranged Combat Strength	Range	Movement	Resources Required	Technology Required	Notes
Mobile SAM	450	Gunpowder	40	N/A	2	4	Aluminum	Computers	Interception (100), bonus vs aircraft (100), bonus vs Helicopters
Modern Armor	700	Armored	80	N/A	N/A	4	Aluminum	Lasers	Penalty attacking Cities, no defensive bonuses, limited visibility, can move after attacking
Nuclear Missile	1200	Bomb	N/A	N/A	8	N/A	Uranium	Advanced Ballistics	Evasion (50), does massive damage to Cities and Units within blast radius
Nuclear Submarine	500	Naval	20	70	3	6	Aluminum	Computers	Is invisible to other units, can see submarines, can enter rival territory, can carry 2 missiles, bonus vs Submarines (50), may enter ice tiles, may not melee attack
Paratrooper	350	Gunpowder	40	N/A	N/A	2	None	Radar	May paratroop up to 5 tiles from friendly territory
Rocket Artillery	600	Siege	18	46	3	3	Aluminum	Rocketry	Indirect Fire, may not melee attack, bonus vs Cities (10), no defensive bonuses, limited visibility
SS Booster	700	Project	N/A	N/A	N/A	2	None	Robotics	One of the spaceship parts required for a Science Victory; 3 are needed to complete the spaceship.
SS Cockpit	1000	Project	N/A	N/A	N/A	2	None	Satellites	One of the spaceship parts required for a Science Victory.
Stealth Bomber	800	Air	N/A	80	20	N/A	Aluminum	Stealth	Penalty vs Naval, Evasion (100), Air Recon
Future Era									
Giant Death Robot	1000	Armored	150	N/A	N/A	3	Uranium	Nuclear Fusion	Penalty Attacking Cities, no defensive bonuses, can move after attacking
SS Engine	1000	Project	N/A	N/A	N/A	2	None	Particle Physics	One of the spaceship parts required for a Science Victory.
SS Stasis Chamber	1000	Project	N/A	N/A	N/A	2	None	Nano-technology	One of the spaceship parts required for a Science Victory.

BUILDINGS

Name	Cost	Maintenance	Technology Required	Specialist Slots	Notes
Ancient Era Buildings					
Barracks	80	1	Bronze Working		+15 XP for all Land Units
Floating Gardens	120	1	The Wheel		+15% Food, +2 Food for each worked Lake tile, city must border a Lake or River, Aztec Unique Building
Granary	100	1	Pottery		+2 Food
Krepost	80	1	Bronze Working		A Russian Unique Building, it provides +15 XP for all Land units and reduces the Culture cost of buying new tiles by 50%.
Library	80	1	Writing	Scientist	+1 Science for every 2 Citizens in the City
Monument	60	1	None		+2 Culture
Paper Maker	80	1	Writing	Scientist	Chinese Unique Building, +1 Science for every 2 Citizens in the City, +4 Gold
Walls	100	1	Masonry		+7 Combat Strength
Water Mill	120	2	The Wheel		+2 Food, City must border a River
Classical Era Buildings					
Armory	130	3	Iron Working		+15 XP for all Land Units, Requires Barracks or Krepost
Burial Tomb	120	0	Philosophy		+2 Culture and +2 Happiness, doubles amount of Gold given to the enemy if City is captured
Circus	150	3	Horseback Riding		+3 Happiness, City must have a source of improved Horses or Ivory nearby
Colosseum	150	3	Construction		+4 Happiness
Courthouse	200	5	Mathematics		Eliminates Unhappiness from an occupied City
Lighthouse	80	1	Optics		+1 Food from Water Tiles, city must border coast
Mud Pyramid Mosque	120	0	Philosophy	Artist	+5 Culture, Songhai Unique Building
Stable	100	1	Horseback Riding		+25% Production of mounted units, city must have a source of improved Horses nearby
Temple	120	2	Philosophy	Artist	+3 Culture, Requires Monument
Medieval Era Buildings					
Bazaar	120	0	Currency	Merchant	+25% Gold, provides 1 extra of Luxury Resources near city, Arabian Unique Building
Castle	200	3	Chivalry		+9 Combat Strength to city, Requires Walls

Name	Cost	Maintenance	Technology Required	Specialist Slots	Notes
Forge	150	2	Metal Casting		+15% Production of land units, requires Iron nearby
Garden	120	2	Theology	Artist	+25% Great People generation, City must border a River or Lake
Harbor	80	3	Compass		Forms a naval trade route with the Capital City, +25% Production of Naval Units
Longhouse	80	2	Metal Casting	Engineer	+1 Production from each worked Forest tile, Iroquois Unique Building
Market	120	0	Currency	Merchant	+25% Gold
Mint	120	0	Currency		Each source of city's Gold and Silver worked produces an extra +3 Gold
Monastery	120	2	Theology		+3 Culture from nearby Incense and Wine
Mughal Fort	180	3	Chivalry		+9 Combat Strength, +2 Culture, provides Gold after Flight is learned, Requires Walls, Indian Unique Building
University	200	3	Education	Scientist	+50% Science, +2 Science from worked Jungle tiles, requires Library, Paper Maker
Wat	200	2	Education	Scientist	+3 Culture, +50% Science, Siamese Unique Building
Workshop	100	2	Metal Casting	Engineer	+20% production of Buildings
Renaissance Era Buildings					
Bank	220	0	Banking	Merchant	+25% Gold, Requires Market
Military Academy	350	3	Military Science		+15 XP for all Land Units, Requires Barracks
Museum	350	3	Archaeology	Artists	+5 Culture, Requires Opera House
Observatory	180	2	Astronomy		+50% Science, City must border a Mountain
Opera House	220	3	Acoustics		+5 Culture, Requires Temple or Mud Pyramid
Public School	350	3	Scientific Theory	Scientist	+50% Science, Requires University or Wat
Satrap's Court	220	0	Banking	Merchant	+25% Gold, +2 Happiness, Requires Market, Persian Unique Building
Seaport	140	2	Navigation		+2 Production from Sea Resources, City must have at least one improved nearby Sea Resource
Theatre	300	5	Printing Press		+4 Happiness, Requires Colosseum
Windmill	180	2	Economics	Engineer	+15% Production, City cannot be on Hills
Industrial Era Buildings					
Arsenal	350	3	Railroad		+20% production of Land Units, Requires Military Academy
Broadcast Tower	600	3	Radio		Doubles Culture, Requires Museum

Name	Cost	Maintenance	Technology Required	Specialist Slots	Notes
Factory	300	3	Steam Power	Engineer	+50% Production, Requires 1 Coal, Requires Workshop or Longhouse
Hospital	400	2	Biology		-50% Food needed for City Growth
Military Base	450	4	Telegraph		+12 Combat Strength, Requires Castle or Mughal Fort
Stock Exchange	650	0	Electricity	Merchant	+33% Gold, Requires Bank or Satrap's Court
Modern Era Buildings					
Hydro Plant	600	3	Plastics		+1 Production for every tile bordering a River, Requires River, Requires 1 Aluminum
Medical Lab	500	3	Penicillin		-25% Food needed for City Growth, Requires Hospital
Nuclear Plant	600	3	Nuclear Fission		+25% Production, Requires 1 Uranium
Research Lab	600	3	Plastics	Scientist	+100% Science, Requires Public School
Solar Plant	600	3	Ecology		+25% Production, City must border a Desert
Spaceship Factory	450	3	Robotics		+50% Production of Spaceship Parts, Requires 1 Aluminum, Requires Factory
Stadium	450	6	Mass Media		+4 Happiness, Requires Theatre

WONDERS

World Wonders

Name	Cost	Culture	Great Person Points	Required Technology	Effect
Angkor Wat	300	1	+1 Engineer	Theology	Culture cost of acquiring new tiles reduced by 50% in every city
Big Ben	700	1	+2 Merchant	Economics	-25% Gold cost for purchasing items in cities, additional +2 Culture per Specialist in all Cities
Brandenburg Gate	550	1	+2 Scientist	Military Science	Free Great General
Chitchen Itza	450	1	+1 Engineer	Civil Service	Length of Golden Ages increased by +50%
Cristo Redentor	1200	1	+2 Artist	Telegraph	Culture cost of adopting new Policies reduced by 33%
Eiffel Tower	1000	1	+2 Merchant	Radio	+8 Happiness empire-wide
Himeji Castle	600	4	+2 Engineer	Chivalry	+25% combat strength for all units in friendly territory
Machu Picchu	550	1	+1 Merchant	Currency	+20% Gold from Trade Routes, must be built within 2 tiles of a mountain.
Notre Dame	500	1	+1 Merchant	Education	+5 Happiness
Pentagon	1200	1	+2 Merchant	Radar	Gold cost of upgrading military units reduced by 50%
Sistine Chapel	650	1	+2 Artist	Acoustics	+33% Culture in all Cities
Status of Liberty	1200	1	+3 Engineer	Replaceable Parts	+1 Production for every Specialist in all Cities
Stonehenge	120	8	+1 Engineer	Calendar	+8 Culture empire-wide
Sydney Opera House	1000	1	+2 Artist	Globalization	Free Social Policy
Taj Mahal	600	1	+2 Artist	Printing Press	Immediately enter a Golden Age
The Colossus	150	1	+1 Merchant	Bronze Working	+1 Gold from worked water tiles, Requires City to be on coast
The Forbidden Palace	600	1	+1 Artist	Banking	Influence with all City-States increased by 50%
The Great Library	150	1	+1 Scientist	Writing	Free Technology
The Great Lighthouse	130	1	+1 Merchant	Sailing	+1 Movement and +1 Sight for all Naval Units, Requires City to be on coast
The Great Wall	350	1	+1 Engineer	Construction	Enemy Land Units must spend 1 extra Movement Point when inside your territory
The Hagia Sophia	300	1	+1 Artist	Theology	+33% generation of Great People

Name	Cost	Culture	Great Person Points	Required Technology	Effect
The Hanging Gardens	200	1	+1 Artist	Mathematics	+1 Population in all existing Cities, '+3 Happiness
The Kremlin	650	4	+1 Scientist	Acoustics	Defensive Buildings are 50% more effective
The Louvre	700	1	+2 Artist	Archaeology	2 free Great Artists appear near the Capital
The Oracle	150	1	+1 Scientist	Philosophy	Free Social Policy
The Porcelain Tower	400	1	+2 Scientist	Education	A Great Scientist appears near the Capital
The Pyramids	175	1	+1 Engineer	Masonry	Worker construction speed increased by 50%
United Nations	1000	1	+2 Merchant	Globalization	Completion triggers voting for the Diplomatic Victory

National Wonders

Name	Cost	Culture	Building Required in all Cities	Required Technology	Effect
Hermitage	310	0	Museum	Archaeology	Doubles output of Culture in this City
Heroic Epic	110	1	Barracks or Russian Krepost	Iron Working	All new Units in this city receive the Morale Promotion
Ironworks	170	1	Workshop	Chemistry	+20% Production
National College	120	1	Library	Writing	+50% Science
National Epic	120	1	Monument	Philosophy	+25% Great People generation
Oxford University	260	1	University	Education	Free Technology
Palace	0	1	None	None	Indicates the Capital City. Cities connected by a Road to the Capital produce additional Gold. +2 Production, +3 Science, , +2 Defense, and +2 Gold

PROJECTS

Name	Cost	Required Technology	Effect
Apollo Program	800	Rocketry	Allows the building of Spaceship Parts
SS Booster	800	Robotics	3 Required for the Science Victory
SS Cockpit	800	Satellites	1 Required for the Science Victory
SS Engine	800	Particle Physics	1 Required for the Science Victory
SS Stasis Chamber	800	Nanotechnology	1 Required for the Science Victory
The Manhattan Project	800	Atomic Theory	Allows the building of Atomic Bombs and Nuclear Missiles
Utopia Project	800	None	Unlocks after fully exploring 5 Social Policy Branches. Building triggers a Cultural Victory

RESOURCES

Name	Food	Production	Gold	Can be Found on	Improvement needed	Notes
Bonus Resources						
Bananas	1	0	0	Jungle	Plantation	
Cattle	1	0	0	Grasslands	Pasture	
Deer	1	0	0	Forests, Tundra, or Hills	Camp	
Fish	2	0	0	Coast	Fishing Boats	
Sheep	1	0	0	Grasslands or Hills	Pasture	
Wheat	1	0	0	Flood Plains, Plains	Farm	
Strategic Resources						
Aluminum	0	1	0	Plains, Desert, Tundra, or Hills	Mine	Revealed by Electricity
Coal	0	1	0	Grasslands, Plains, or Hills	Mine	Revealed by Scientific Theory
Horses	0	1	0	Grasslands, Plains, or Tundra	Pasture	Revealed by Animal Husbandry
Iron	0	1	0	Grasslands, Plains, Desert, Tundra, Snow or Hills	Mine	Revealed by Iron Working
Oil	0	1	0	Jungle, Marsh, Desert, Tundra, Snow or Ocean	Offshore Platform or Well	Revealed by Biology
Uranium	0	1	0	Forests, Jungle, Marsh, Grasslands, Plains, Desert, Tundra, Snow or Hills	Mine	Revealed by Atomic Theory
Luxury Resources						
Cotton	0	0	2	Grasslands, Plains, Desert	Plantation	
Dyes	0	0	2	Jungle, Forest	Plantation	
Furs	0	0	2	Forest, Tundra	Camp	
Gems	0	0	3	Jungle, Grasslands, Plains, Desert, Tundra, Hills	Mine	
Gold	0	0	2	Grasslands, Plains, Desert, or Hills	Mine	
Incense	0	0	2	Desert or Plains	Plantation	
Ivory	0	0	2	Plains	Camp	
Marble	0	0	2	Grasslands, Plains, Desert, Tundra, or Hills	Quarry	
Pearls	0	0	2	Coast	Fishing Boats	
Silk	0	0	2	Forest	Plantation	
Silver	0	0	2	Tundra, Desert, or Hills	Mine	
Spices	0	0	2	Jungle	Plantation	
Sugar	0	0	2	Flood Plains, Marsh	Plantation	
Whales	1	0	1	Coast	Fishing Boats	
Wine	0	0	2	Grasslands, Plains	Plantation	

IMPROVEMENTS

Name	Tile Yields	Improves Resources	Prerequisite Techs	Can be Built on
Worker Improvements				
Camp	None	Ivory, Furs, Deer	Trapping	Forests, Tundra, Plains, Hills
Farm	+1 Food	Wheat	Agriculture	Grasslands, Plains, Desert
Fishing Boats	None	Fish, Whales, Pearls	Sailing	Coast
Fort	Defensive Bonuses	None	Engineering	Grasslands, Plains, Desert, Tundra, Snow
Lumber Mill	+1 Production	None	Engineering	Forests
Mine	+1 Production	Iron, Coal, Aluminum, Uranium, Gems, Gold, Silver	Mining	Grasslands, Plains, Desert, Tundra, Jungle, Snow, Hills
Offshore Platform	None	Oil	Refrigeration	Ocean
Oil Well	None	Oil	Biology	Jungle, Marsh, Desert, Tundra, Snow
Pasture	None	Horses, Cattle, Sheep	Animal Husbandry	Grasslands, Plains, or Tundra
Plantation	None	Bananas, Dyes, Silk, Spices, Sugar, Cotton, Wine, Incense	Calendar	Grasslands, Plains, Desert, Forests, Marsh, Flood Plains, Jungle
Quarry	None	Marble	Masonry	Grasslands, Plains, Desert, Tundra, or Hills
Trading Post	+2 Gold	None	Trapping	Grasslands, Plains, Desert, Tundra
Great People Improvements				
Academy	+5 Science	None	None	Grasslands, Plains, Desert, Tundra, Snow
Citadel	Defensive Bonuses, 3 damage to adjacent enemy units	None	None	Grasslands, Plains, Desert, Tundra, Snow
Customs House	+4 Gold	None	None	Grasslands, Plains, Desert, Tundra, Snow
Landmark	+5 Culture	None	None	Grasslands, Plains, Desert, Tundra, Snow
Manufactory	+3 Production	None	None	Grasslands, Plains, Desert, Tundra, Snow

TECHNOLOGIES

Name	Cost	Prerequisite Techs	Leads to Techs	Unlocks
Ancient Era				
Agriculture	20	None	Pottery, Animal Husbandry, Archery, Mining	Farm
Animal Husbandry	35	Agriculture	Trapping, The Wheel	Horses, Pasture
Archery	35	Agriculture	Mathematics	Archer
Bronze Working	55	Mining	Iron Working	Spearman, Hoplite, Immortal, Barracks, Krepost, The Colossus, remove Jungle
Calendar	70	Pottery	Theology	Stonehenge, Plantation
Masonry	55	Mining	Construction	Walls, The Great Pyramid, Quarry, clear a Marsh
Mining	35	Agriculture	Masonry, Bronze Working	Mines, remove Forest
Pottery	35	Agriculture	Sailing, Calendar, Writing	Granary
Sailing	55	Pottery	Optics	Work Boat, Trireme, The Great Lighthouse, Fishing Boats
The Wheel	55	Animal Husbandry	Horseback Riding, Mathematics	Chariot Archer, War Chariot, War Elephant, Floating Gardens, Water Mill, build a Road
Trapping	55	Animal Husbandry	Civil Service	Trading Post, Camp
Writing	55	Pottery	Philosophy	Paper Maker, Library, National College, The Great Library, Open Borders
Classical Era				
Construction	100	Masonry	Engineering	Colosseum, The Great Wall, bridges over rivers
Horseback Riding	100	The Wheel	Chivalry	Horseman, Companion Cavalry, Stable, Circus
Iron Working	150	Bronze Working	Metal Casting	Swordsman, Mohawk Warrior, Legion, Armory, Heroic Epic, Iron
Mathematics	100	The Wheel, Archery	Currency, Engineering	Catapult, Ballista, The Hanging Gardens, Courthouse
Optics	80	Sailing	Compass	Lighthouse, Embarking
Philosophy	100	Writing	Theology, Civil Service	Mud Pyramid, Burial Tomb, Temple, National Epic, The Oracle, Research Agreements
Medieval Era				
Chivalry	440	Civil Service, Horseback Riding, Currency	Banking	Knight, Camel Archer, Naresuan's Elephant, Mandekalu Cavalry, Mughal Fort, Castle, Himeji Castle, Defensive Pact Treaties
Civil Service	400	Philosophy, Trapping	Chivalry	Pikeman, Landsknecht, Chichen Itza, +1 Food for Farms along fresh water
Compass	340	Optics	Astronomy	Harbor
Currency	250	Mathematics	Chivalry	Market, Mint, Bazaar, Machu Picchu
Education	440	Theology	Astronomy, Acoustics, Banking	Wat, University, Oxford University, Notre Dame, The Porcelain Tower

Name	Cost	Prerequisite Techs	Leads to Techs	Unlocks
Engineering	250	Mathematics, Construction	Machinery, Physics	Lumbermill, Fort
Machinery	440	Engineering	Printing Press	Crossbowman, Chu-Ko-Nu, Longbowman, faster road movement
Metal Casting	250	Iron Working	Physics, Steel	Longhouse, Forge, Workshop
Physics	440	Engineering, Metal Casting	Printing Press, Gunpowder	Trebuchet
Steel	440	Metal Casting	Gunpowder	Longswordsman, Samurai
Theology	250	Calendar, Philosophy	Education	Monastery, Garden, Angkor Wat, The Hagia Sophia
Renaissance Era				
Acoustics	650	Education	Scientific Theory	Opera House, The Sistine Chapel, The Kremlin
Archaeology	1300	Navigation	Biology	Museum, Hermitage, The Louvre
Astronomy	650	Compass, Education	Navigation	Caravel, Observatory, faster embarked movement, embarking across oceans
Banking	650	Education, Chivalry	Economics	Satrap's Court, Bank, The Forbidden Palace
Chemistry	900	Gunpowder	Military Science, Fertilizer	Cannon, Ironworks
Economics	900	Banking, Printing Press	Military Science	Windmill, Big Ben
Fertilizer	1300	Chemistry	Dynamite	Farms without Fresh Water yield increased by 1
Gunpowder	680	Physics, Steel	Chemistry, Metallurgy	Musketman, Minuteman, Musketeer, Janissary
Metallurgy	900	Gunpowder	Rifling	Lancer, Sipahi
Military Science	1300	Economics, Chemistry	Steam Power	Cavalry, Cossack, Military Academy, Brandenburg Gate
Navigation	900	Astronomy	Archaeology, Scientific Theory	Frigate, Ship of the Line, Seaport
Printing Press	650	Machinery, Physics	Economics	Theatre, Taj Mahal
Rifling	1425	Metallurgy	Dynamite	Rifleman
Scientific Theory	1300	Navigation, Acoustics	Biology, Steam Power	Public School, Coal
Industrial Era				
Biology	1680	Archaeology, Scientific Theory	Electricity	Hospital, Oil, Well
Combustion	2200	Replaceable Parts, Railroad, Dynamite	Atomic Theory, Lasers	Tank, Panzer
Dynamite	1900	Fertilizer, Rifling	Combustion	Artillery
Electricity	1900	Biology, Steam Power	Refrigeration, Telegraph, Radio	Stock Exchange, Aluminum, Destroyer
Flight	2200	Replaceable Parts	Radar	Carrier, Fighter, Zero
Radio	2200	Electricity	Radar, Mass Media	Anti-Aircraft Gun, Broadcast Tower, Eiffel Tower
Railroad	1900	Steam Power	Combustion	Arsenal, Railroad

Name	Cost	Prerequisite Techs	Leads to Techs	Unlocks
Refrigeration	2200	Electricity	Plastics, Penicillin	Submarine, Offshore Platform
Replaceable Parts	1900	Steam Power	Flight, Combustion	Anti-Tank Gun, Infantry, Foreign Legion, Statue of Liberty
Steam Power	1680	Scientific Theory, Military Science	Electricity, Replaceable Parts, Railroad	Ironclad, Factory, Lumber Mill Production yield increased by 1, faster embarked movement
Telegraph	2200	Electricity	Electronics	Battleship, Military Base, Cristo Redentor
Modern Era				
Advanced Ballistics	3350	Lasers, Nuclear Fission	Nuclear Fusion	Nuclear Missile
Atomic Theory	2600	Combustion	Nuclear Fission	The Manhattan Project, Uranium
Computers	3000	Electronics, Mass Media	Robotics	Nuclear Submarine, Mobile SAM
Ecology	3000	Plastics, Penicillin	Globalization	Solar Plant
Electronics	2600	Telegraph	Computers	Mechanized Infantry
Globalization	3350	Ecology	Particle Physics	United Nations, Sydney Opera House
Lasers	3000	Radar, Combustion	Stealth, Advanced Ballistics	Modern Armor, Jet Fighter
Mass Media	2600	Radio	Computers	Stadium
Nuclear Fission	3000	Atomic Theory	Advanced Ballistics	Atomic Bomb, Nuclear Plant
Penicillin	2600	Refrigeration	Ecology	Medical Lab
Plastics	2600	Refrigeration	Ecology	Research Lab, Hydro Plant
Radar	2600	Radio, Flight	Rocketry, Lasers	Bomber, B17 Bomber, Paratrooper, Pentagon
Robotics	3350	Computers	Particle Physics	Spaceship Factory, SS Booster, Missile Cruiser
Rocketry	3000	Radar	Satellites	Helicopter Gunship, Rocket Artillery, Apollo Program
Satellites	3350	Rocketry	Particle Physics, Nuclear Fusion	SS Cockpit, Guided Missile
Stealth	3350	Lasers	Nuclear Fusion	Stealth Bomber
Future Era				
Future Tech	4000	Nanotechnology, Nuclear Fusion	None	A repeating tech which increases your Score each time its completed
Nanotechnology	3300	Particle Physics	Future Tech	SS Stasis Chamber
Nuclear Fusion	3600	Satellites, Stealth, Advanced Ballistics	Future Tech	Giant Death Robot
Particle Physics	3350	Globalization, Robotics, Satellites	Nanotechnology	SS Engine

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